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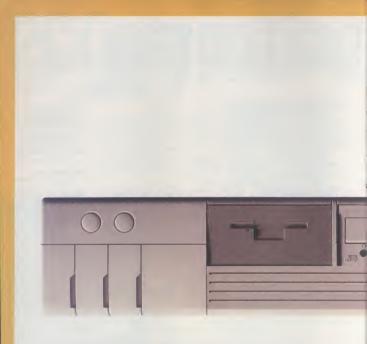
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NATIONAL ASSOCIATE PURI ISHER, SLORD SPUTIOUT, (212) 503-4830

NATIONAL AD DIRECTOR Lucy Wohltman, (415) 547-8073 ADVERTISING CODEDINATOR, David McCaman, (415) 547-8031

SALES COORDINATOR Richard McNees

SALES ASSISTANTS Becky Barnhill, Gina Belt, Loreen Bernardini, Mimi Lathan, Sandy Marciniak, Molty O'Brien

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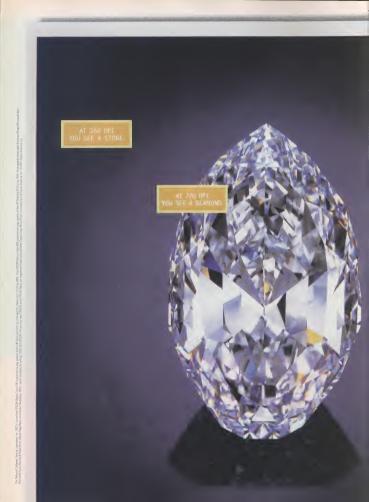
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> BERT L. BINGEL VIA AMERICA ONLINE

> > HANK JONAS

Buy the Book

I thought "How to Use Technology to Get Ahead, Torture Your Enemies, and Destroy the Competition ... Without Getting Caught!" (April) was great. If you ever put a book together on the subject, I'll buy it. Think about it.

MARK NORMAND VIA THE INTERNET

Dirty Tricks

Your magazine usually provides useful information for making the workplace more productive. "How to Use Technology to Get Ahead, Torture Your Enemies,

tunnel syndrome. VIA THE INTERNET

Stick to the Facts

I couldn't agree more with Paul Somerson's comments about the excess and stupidity of most litigation in our country ("Ouch!" April). However, he misrepresented the facts concerning the spilled-coffee case. The victim asked only that McDonald's pay her medical bills. When McDonald's refused, she turned

I thought it would start smoking.

Funny-she never complained of carpal

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Mail BY PHONE, FAX, NET & POST: Litigation Land · April Fools Fess Up

PC PRANKS

Fueling the Fire

Iked the artwork in your April feature story "How to Use Technology to Get Ahead, Torture Your Enemies, and Destroy the Competition ... Without Getting Caught!" (page 202). I, too, read *Mad* magazine in the '60s, much to my parents' dismay. But are you nuts? As if network managers didn't have enough problems, you had to publish instructions for pranks. Watch your fax, guys!

> Bert J. Bingel via America Online

Buy the Book

Ithought "How to Use Technology to Get Ahead, Torture Your Enemies, and Destroy the Competition... Without Getting Caught!" (April) was great. If you ever put a book together on the subject, I'll buy it. Think about it.

Mark Normand via the Internet

Dirty Tricks

Your magazine usually provides useful information for making the work-place more productive. "How to Use Technology to Get Ahead, Torture Your Enemies, and Destroy the Competition... Without Getting Caught!" (April) does exactly the opposite. It's on par with the Anarchist's Cookbook, which gives directions for making bombs. Given the tone of the article, I half expect you to send me a mail bomb in reply to this message.

> WILLIAM BONNER VIA THE INTERNET

Lawsuit City

I enjoyed Paul Somerson's April column ("Ouchi" page 63). I'm sure you'll soon be sued by someone with cargal tunnel syndrome charging that you've belitted his or her ailment and caused mental anguish. You can probably settle for \$100,000 out of court. I had a secretary who typed softs on an IBM Selericit that I thought it would start smoking. Funny—she never complained of carpal tunnel syndrome.

> HANK JONAS VIA THE INTERNET

Stick to the Facts

I couldn't agree more with Paul Somerson's comments about the excess and stupidity of most lingation in our country ("Ouch!" April). However, he misrepresented the facts concerning the spilled-coffee case. The victim asked only that McDonald's pay her medical bills. When McDonald's refused, she turned to the courts. The *jary* was responsible for the excession.

> LARRY WINSLOW VIA THE INTERNET

LET'S GET THIS STRAIGHT. She

bought coffee. She put the cup between her knees in a moving car. She spilled the coffee on herself. Instead of taking responsibility, she wanted McDonald's to pay. And when the jury awarded her millions, she happliy accepted. Are we missing something here?

John-foolery

Well, you've earned my respect. It's been a long time since I fell for an April Fools' Day prank, but chalk me up as one of

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Mail BY PHONE, FAX, NET & POST: Tube Modems Redux · Shake and Bake

your victims ("Down the Tubes—Not?" April, page 67). I should have known sonething was amiss in John Dvoraks' well-written column on the rebirth of tube technology. Never before has a magrager, nor has one inspired me to laugh so hard. Thanks, PC Computing, I enjoyed the laugh at myself.

> Joshua D. Hensley via the Internet

Totally Tubular

You had me going for second . . . bur only a second.john Dorosk's April columm ("Down the Tubes—Noti") harkens back to the April Fools' joke printed by *Radio-Electronics* magazine in the maxing Westingmouse miriradio. It used very small tubes (and *did* glow green) and was a marvel for the time. Nonetheless, I think I'll keep an eye out for the Pentubium Prosky.

> GEORGE GRAY VIA AMERICA ONLINE

No April Fool

I'm proud of myself because I didn't get beyond "it uses around 500 watts to rum" in John Dorak's April column. Then I spelled vebralam backward. Most of my technicalcommunications students, however, nead it to the end. Don't feel too smug, though; the two computer-science majors in the class naidel you early on.

> CHUCK GENTHE VIA THE INTERNET

A Little Levity

Hey, very very funny ("Down the Tubes— Not!" April). I wish computer magazines would lighten up a little. They're always so serious. Great day-brightener.

> STEPHEN HEATON VIA THE INTERNET

Show Him the Money

The Taylor & Jerome column on Web retail success was interesting ("Accidental Millionaires?" April, page 65). However, featuring three or four successful sites doesn't prove that the Web is a robust, cash-laden marketplace—especially when, unlike Auto-By-Tel, few companies can unlike Auto-By-Tel, few companies can afford a half-time commercial during the Superbowl. That kind of financial power is beyond most businesses on the Net.

> Bob Riley via the Internet

TWELVE MONTHS AGO Auto-By-Tel couldn't afford a Superbowl ad either. The beauty of the Web is that it levels the playing field. With a combination of Web advertising and an aggressive presence in search engines, even little guys get noticed.

Just Can't Get Enough

I loved the April Taylor & Jerome column ("Accidental Millionaires?"). It inspired me to think of new ways to do business.

NICK DADDIS VIA AMERICA ONLINE

Online Shopping

I couldn't agree more with Taylor & Jerome ("Accidental Millionaires?" April). Living in Bermuda really reduces my access to complete markets and all the products available at most malls. Being able to shop online is a codsend.

> Colin Foss via the Internet

True Torture

Wimps! Office workers! Notebook torture? I laugh at your tests ("Extreme Computing," April, page 152). As a cop in an Arizona city, I had to find a laptop rugged enough to be cop-proof. My tests included pouring 44-ounce sodas and 20-ounce cups of hot coffee onto the keyboard and screen: dropping the computer from the trunk of a car onto asphalt; and dropping it 5 feet to a hard tile floor-all while the unit was open and running. Oh yes, and the machine must withstand Arizona desert heat inside a car, baking not for hours but for months. One system-the Panasonic CF-25-survived all the tests with only cosmetic damage to its magnesium case.

MATT BUCKO VIA THE INTERNET

COP-PROOF? We only tried to determine which notebooks were marketing-director proof, financialanalyst proof, and journalist proof. Hats off to Arizona's finest. WHERE TO FIND THE MOST AFFORDABLE WAY TO STAY. AND STAY. AND STAY.

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Mail BY PHONE, FAX, NET & POST: Translating DVD · Cybergambling

What's in a Name?

The cover of the April issue of PC Computing and the feature article by Dave Gerding assert that "CD-ROM Is Deall" The early demise will be brought about by something called DVD. Is that Dreaded Venereal Disease? The acronym is not defined in the article, which was excellent in all other respects.

> TONY LAMER VIA THE INTERNET

THE COMPANIES THAT CREATED

the DVD standard couldn't agree on a name, so officially it doesn't stand for anything. No lie. Initially it stood for Digital Video Disc, and later, Digital Versatile Disc.

Lazy, Lazy

Paul Somerson's "Daisy Daisy" column (March, page 59) has me confused. He writes that computer software is unfriendly. When did the computer stop being a tool and become an appliance? I have worked for several years supporting and repairing PCs, and at least 80 percent of all the problems I solve are user-error related. Are hardware and software products too difficult to use? Or is the problem that it's easier to complain than to learn?

> Phil Vogler via the Internet

COULD THE FACT THAT 80 PERCENT

of users have problems with products possibly mean something? Could it perhaps be that all this stuff is absurdly difficult for most users to figure out? Could it also be that PC-support workers often peg users as complainers instead of normal folks who shouldn't have to put up with such nonsense just to get work done?

Bet-Free Net

In response to your question "Should Internet gambling be legal?" (Mail, March, page 37): simply, no! The Internet crosses state lines, and online gambling should not be allowed in states that do not allow gambling. Also, there is no way to stop minors from using and abusing the system.

BOB CONLEY VIA THE INTERNET

For the Record

The Web address for eTrust, an organization devoted to promoting online privacy (Mail, April, page 29), is www.etrust.com.

The phone number for Brother International ("A Printer for Every Desktop," April, page 188) is (800) 827-6843.

Intershop Online ("Set Up Shop on the Internet," May, page 84) uses Sybase SQL Server II. It also features time-based sales and one-to-one marketing.

HAS PUTTING YOUR BUSINESS ON THE WEB PAID OFF? Send your thoughts about this and other subjects to Mail, *PC Computing*, 50 Beale St., 13th Floor, San Francisco, CA 94105; or via the Internet at 72241.1724@ compuserve.com. Letters may be edited for length and clarity.

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V visioneer

Manday:-

Find that expense report from 1993 (the one with the little white lie in it)

Wednesday:-

Search through records to find receipts justifying expenses Stand in line to use the fax machine Curse the AP department.

Thursday:-

Spend six precious hours retyping budget proposals that will probably get rejected, anyway

- Tuesday:

Sort through 1996 poperwork File some documents. Photocopy others. Recycle the originals. Repeat process until desk is recognizable.

Friday:

Orgonize marketing research, memas, and sales projections by client, product, and quarter.

Weekend:

Find, retype, and e-mail that newspaper orticle about the competition to the soles team---in France.

Manday, again: Fax this botch to the bass, his bass, her V.P., and the entire corporate marketing department

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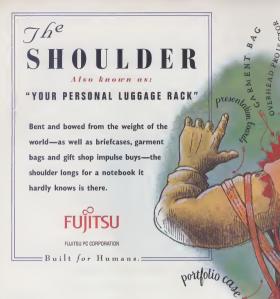
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Big Sale: If you sell things over the Web. you've got plenty of potential buyers. Half of all U.S. households with Web surfers earn more than \$50,000 a year.



PC Power: Despite their higher price, PCs will remain more popular than Net TVs for years to come. Who wants to surf the Web while watching TV anyway?

SMART CARDS

Easy Monev

Shop till you drop is about to take on a vastly different meaning. Smart cards are finally here, making online shopping and electronic banking painless and secure. Several vendors are creating devices that will let your PC read and write on a smart card so you can download cash credits from your bank or upload them to your creditors or Internet merchants-any time of day or night.

What's a smart card? It's a 2-by-3-inch piece of plastic with an embedded processor and memory-think of it as a credit card with smarts. Telephone companies and tollbooth operators already offer memory-only cards that store e-cash in denominations of \$20 to \$100. Smart cards-with brains as well as memory-will be used as combination creditdebit-ATM-e-cash cards. They may even contain your health records, driver's license, and other personal information, as well as give you secure access to buildings, in-house networks, and intranets.

Digital Dollars: Get ready for your wallet to get a lot lighter. Smart cards will take the place of your credit cards, ATM card, checkbook, and maybe even your driver's license.

of which are already being used in Europe and Asia-are more convenient to carry than cash, and less susceptible to theft since many require a password. Next year you may be using them regularly for purchases at vending machines and gas pumps.

Smart cards are just another element of the cashless, checkless society that banks have had us slouching toward for decades. Banks hate shuffling paper, even paper money. They love electronic banking and bill-paying programs like Intuit Quicken and Microsoft Money. Get on board these technologies and you'll help banks realize their dream of replacing most fullservice branches with ATMs. You'll also reduce the number of your own trips to the ATM and eliminate laborious data-entry from your tax and

Smart cards—some 8 million

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Reader Service Numbers: Insight Direct, 606; Computer Discount Warehouse, 607; DataComm, 608; PCs Compleat, 609; NECX Direct, 610.

budget record-keeping.

That's where your PC comes in, Fischer International is shipping a smart card called Smarty. You just drop it into your floppy drive, and your computer becomes a bank ATM where you "recharge" the smart card with money from your checking account-or debit it to buy some Internet bauble. Likewise, VeriFone has a palmsize, external reader/writer called the Personal ATM that connects to a PC or a telephone line. Both are likely to be distributed by banks; but several PC and keyboard manufacturers plan to include smart-card readers in all their hardware by default.

None of these add-ons will do you much good unless financial institutions agree on a smart-card standard. But analysts are optimistic—most banks have already started down the smart-card road by offering telephone- and Webbased banking. And, to our astonishment, most smartcard vendors have already agreed on a cross-compatible Java-based card system, which means any card will work with any reader.

It's been a long time coming, but the smart eard has finally arrived. Thanks to big initiatives from financial institutions and strong compatibiity agreements right out of the gate, all the green lights are on. Expect to see an offer for a smart card and/or a smart-eard reader suffed into one of your bank-statement envelopes one day soon. MH

Contributors to Pulse: MIKE HOGAN, LIESL LA GRANGE NOBLE, and RICH SCHWERIN. Edited by JACK LYON.

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Closing In

On its Way Out

Cable, Again: In response to DSL modems, cable modem prices are dropping to \$300. We'll take one provided cable services ever become available.

Browser Wars: Just pick one aiready. With Navigator and Explore alwaps adding new features, it's hard to keep up. Spendyour time on more important things, like finding the latest Macarena Web site.

Snafus: Internet software is being developed so fast that bugs are hopping up everywhere—including accidental gateways that let hackers onto your server. Oops.

> Web Potatoes: Pitch your bookmarks. The small-army of agents that deliver content right to your PC are becoming so sophisticated, you'll never have to use your mouse again.

Add- in Cards, It you have to open your PC to install it, it's too hard. If intel has its way, your next modern, sound card, and even video player will all be part of the MIX chip anyway.

> Chip Wars: You Hought buying a computer was difficult before? Now there's Pentium Pro, Pentium II, Kê, and a host of others. Pic king the right PC is getting harder than programming yot; VCR

> > Multiple Mailboxes: ISPs are finally going to let you keep your e-mail address, even if you change providers. Of course, that also means junk-mail purveyors will be an easier tim into ing you.

Puise: NT Update

Reclaim Your Hard Drive

Paritioning and formating a hard disk with Microsoft's tools is a brutish job and the results are as permanent as death and taxes. With only these blunt instruments at hand, carving out an extra logical drive or shrinking an existing partition means backing up, using FDISK to reset partitions, reformatting the new logical drive, and restoring your data and registry settings.

Or, you can pick up a copy of PowerQuest's new PartitionMagie 3.0, which drustically reduces the time you spend performing disk-maintenance tasks—even the toughest jobs take literally minutes. For \$69 or less per copy, it's one of the biggest software bargains around.

The simplest use of PartitionMagic is to reclaim wasted disk space on systems

NT TOOLS

SAFETY NET

Want to reduce security headaches and trim Internet access bills for a department? Download a 30-day evaluation of Microsoft's \$995 Proxy Server and funnel Internet access through a secure NT server. Setup is simple, and the payback is nearly instant. For more information visit www.microsoft.com/proxy.

PLUG AND PLAY, NT STYLE

On the road? With most notebooks, trying to run NT is about as much fun as squeezing into a center seal in the crying-babies section. Which is why we were thrilled to get an advance look 40 ligital Equipment's new HiNGte VP 500 notebooks. With NT 4.0 and Digital's custom drivers preloaded, you get power management and hot-swapping of PC Cards. For the latest, visit www.windows digital.com/wew/achtives/news/6b.http.

HACK ATTACK

If you've installed Internet Information Server, determined attackers can take your site down with bogus TOPIP connection requests to tie up a system's resources. Recent NT 4.0 service packs contain a fix. For more info, search Microsoft's Knowledge Base for article Q142641 and visit www.microsoft.com/kb. using the File Allocation Table (FAT) partitioning scheme by automatically resizing partitions to take advantage of smaller cluster sizes. On a 2GB drive, this can salvage 300MB of previously unavailable disk space.

If you replace a system's main hard disk, PartitionMagic makes it a painless process to copy the boot partition from the old drive to the new one, then swap the active-drive designations to boot from the new drive.

Anyone who dual-boots Windows 95 and Windows NT 4.0 will appreciate PartitionMagic's ability to quickly convert disk formats. It took less than five minutes to convert a 1GB partition from FAT32, which is incompatible with NT, to FAT16 or NTF5.

But is it safe? A search of newsgroups and CompuServe forums turned up only rave reviews of Power-Quest and its software. Our experience

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Partitions					
Volume	Тура	Size M8	Uked MB	Free MB	Status
· ED	FAT32				Active .
- DSRZ	FAT22	598.5	286.5	302.0	Buetable
- BACKUP	FAT32	600.5	410.6	105.9	Beetable 2
Options					
Info		Shorter			Help
	Resize				Ext

PartitionMagic: Bar charts display information about all partitions on the current drive. Use buttons and pull-down menus to resize or convert partitions.

> was flawless as well. In fact, you should be far more leery of the standard back up-FDISK-reformat-restore process, especially if you're using a relatively unreliable backup medium such as QIC-80 tape.

There are a few tools that every serious NT user should own. This is one of them. Contact PowerQuest at (800) 757-5044 or (801) 226-8977.

Hungry for more inside info about Windows NT? Call (800) 223-6720, or (302) 493-3300 outside the United States, for a free sample copy of PC Computing's 32-Bit Windows Expert, edited by ED BOTT.

BRIEFS NT NEWS AND TRENDS

Bug Fixes, Bonuses Service Pack 3 was still undergoing tests as this issue went to press, but it looks like this set of patches will do more than just swat bugs. The latest beta copies of NetMeeting 2.0 and the Wolfpack clustering technology, for example, both require code found only in Service Pack 3 or later. Look for full details on Microsoft's Web site. ftp.microsoft.com/bus sys/winnt/winntpublic/fixes.

Less Than Zero

Zero Administration Windows sounds like a good thing, but so far it's still just a collection of downloadable demos and loftysounding press releases. Microsoft's latest additions include details about how administrators can lock down a NetPC so that users can't futz with desktop settings, install their own software, or (horrors!) play games. Grim details at www

.microsoft.com/wind ows/platform/info/za kdemo.htm.

Missed Milestones

Microsoft has quietly informed developers that Windows NT 5.0 will be delayed until the first quarter of 1998, with first betas not expected until midyear or later. New features may be released as addons or patches, but there's no desire to slow sales of NT-4.0, which are kicking into high gear now.

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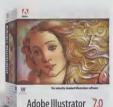
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Circle 265 on reader service card.

Editors' top picks in 100 hardware, software, and Internet categories, Edited by Wendy Taylor and Kyla K, Carlson



Some people are more versatile than others.

Fortunately, some notebooks are more versatile than others, too.

Are you often called on to do the job of five people? If so,

you're precisely the kind of person who can benefit from an NEC Versa; 6050, for example. Thank: to its patented VersaBay" slot with interchangeable components, you can customize the exact notebook

▶ 150MHz Pentium ⁴ Processor with MMX'' Technology
▶12.1" XGA or SVGA display
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▶ Internal 33.6Kbps data/fax/voice modem
▶ VersaBay capability
Desktop docking station (opt.)

you need, when you need it. So let's say you want to get some work done on an airplane. Simply add an additional battery. Need space to download large documents? Just slide in the extra hard drive.

You can even watch a movie by adding the 10X CD-ROM reader.

The top-of-the-line Versa 6200 offers all that, and more. In addition to its VersaBay slot, it boasts a huge 13.3" display (the largest available in a notebook), making it perfect for presentations or view-



ing and working with large amounts of information.

The Versa 2600, on the other hand, provides you with versatility in an entirely different way. With its built-in CD-ROM,

hard drive, floppy and battery, the 2600 ensures that, no matter what your computing needs, everything you need is always at your fingertips. You see, every Versa notebook is designed to provide you with the utmost in versatility.



After all, you play different roles during the course of a day. Shouldn't your notebook be able to do the same?



NEC Versa 6050



NEC Versa 6200



NEC Versa 2600

Versatile notebooks for versatile people:" Girde 219 on reader service card.





TRACEY ULLMAN impersonator

NEC

A List Intinued from page 51

PORTABLE SYSTEMS continued

keeps on ticking. A	\$4,099, 150MHz Pentium, 16MB RAM,
ure-test survivor	2.1GB hard drive. (800) 388-8542.
J.	See Apr. 1997, page 152.
e you'il actually take it	\$399, 1MB RAM, backlit display, 5.7 ounces.
ur coat pocket, too.	(800) 881-7256. See May 1997, page 88.
	ure-test survivor p you'il actualiy take it

PRINTERS

Photo Finish: Make all your documents rise to the top of the pile. Today's color printers are so affordable you'll be fishing for excuses to print in color.

Top Pick	The Buzz	The Stats*
Low-Cost Desktop Laser Printer NEC Technologies SuperScript 860	What are you waiting lor? At under \$400, this desktop laser is a steal.	\$399, 8 ppm, 600 dpi. (800) 632-4636. See Apr. 1997, page 177.
High-Speed Desktop Laser Printer Hewlett-Packard LaserJet 6P	The ultimate low-maintenance relationship: Just plug it in and it works. Great paper-handling options, too.	\$799 list, 8 ppm, 600 dpi, PCL 6, infrared port. (800) 527-3753 ext. 2249 See Apr. 1997, page 177.
High-Speed Network Laser Printer Hewlett-Packard LaserJet 5Si Mopier	It prints, it sorts, and it stapies at speeds close to your \$20,000 copy machine.	\$9,549, 24 ppm, 3,100-page capacity, 420MB disk drive. (800) 752-0900. See Dec. 1996, page 106
Multifunction Printer/Fax/Copier Hewlett-Packard OfficeJet 500	Who needs an office manager? HP's OfficeJet prints, scans, faxes, and copies pages for you.	\$499, 600-dpi black and up to 600-by- 300-dpi color, 300-dpi scanning (800) 752-0900. Stay tuned
Desktop Color Printer Epson Stylus Color 800	The perfect partner for your digital camera: Epson's latest produces photo-quality prints that rival those from a FotoMat.	\$449, 1,440-by-720-dpi color and black, 7-ppm color, 8-ppm black, (800) 463-7766 See May 1997, page 90
Low-Cost Network Color Printer Hewlett-Packard DeskJet 1600CM	The cheapest way to give everyone on the network color output. It's fast, too.	\$1,999, ink-jet, 4-ppm color, 9-ppm black (800) 752-0900. See Nov. 1996, page 196
High-Speed Network Color Printer Lexmark Int'i Optra C Pro	It's just like having a high-speed professional color press on the premises—for oniy 17 cents per page.	\$5,799, laser, 3-ppm color, 12-ppm black (800) 358-5835. See Nov. 1996, page 196.
Photo-Quality Color Printer Tektronix Phaser 450	Need the best photographic output money can buy? With outstanding color matching and workgroup support, this is your printer.	\$6,995 list, dye-sublimation, 300-dpi, 16MB RAM. (800) 835-6100. Stay tuned.

O

STORAGE

Fast Lane: PCs based on Intel's TX motherboard chip set add support for the superfast Ultra-IDE bus. Watch for Ultra-IDE drives to appear by fall.

Top Pick	The Buzz	The Stats*
Hard Drive	All the storage you need, and then some.	\$250, Fast ATA-3 interface, 2.5GB capacity.
Seagate Medalist Pro 2520	It's fast, too.	(800) 732-4283. See May 1997, page 92.
Removable Storage Iomega Jaz Drive	In the future we'll carry our PCs in our pockets. In the meantime, this is the best way to take your data with you.	\$399 internal, \$499 external, SCSI-2 or EIDE interface. (800) 246-6342. See Jan. 1997, page 184.
CD-ROM Drive	Stop the CD shuffle! Get a five-disc,	\$249, EIDE interface, ten-speed changer,
Panasonic 10X Big 5	ten-speed CD changer for the price of	holds five discs. (800) 742-8086.
"ESTIMATED STREET PRICE UNLESS NOTED OTHERWI	a single-disc drive.	See this issue, page 245.

Increase Your Storage Capacity While Maintaining World Class Speed.

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It's a clear-cut victory for the backpack 8000t, the fastest tape backup system in the field. It has a big 8GB capacity, and

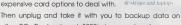
it's portable. This powerful drive transfers data at up to 30MB per minute. That's 3 times faster

times faster than

than you'll find elsewhere. Using a single Travan TR-4 tape, backup your large

hard drives in record time. But that's not all. Installation is a breeze. Plua the backpack 8000t into your printer port and your printer into the backpack. There are no





other PCs. The backpack 8000t gives great performance at a price well under external DAT drives.



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A-List continued from page 56

STORAGE continued

Top Pick	The Buzz	The Stats*
CD-Recordable Drive Creative Labs Blaster CD-R 4210	Easy and inexpensive CD publishing. Doubles as a quad-speed CD-ROM drive, too.	\$499 internal, \$649 external, SCSI interface 4X CD-ROM reader. (800) 998-5227 ext. 135. See this issue, page 245
Network Storage MegaDrive Systems Enterprise E-8	Don't let a dead hard drive take your business down with it. This is bulletproof backup and storage for your network.	\$13,999, 36GB RAID array, four 9.1GB hard drives. (800) 664-6342. See Jan. 1997, page 135.

PERIPHERALS

Capture the Moment: Visioneer's paper tamer is better than ever. New software and a color scanner let you manage pictures as easily as text.

Top Pick	The Buzz	The Stats*
Personal Document Scanner Visioneer PaperPort Strobe	The ultimate way to tame that paper in-box. Fast, easy to use, and now there's even color.	\$319, 300 by 600 dpi, OCR, image-editing, and document-management software. (800) 787-7007 ext. 114. Stay tuned.
Graphics Scanner Hewlett-Packard ScanJet 5pse	Hassle-free scanning with a simple push of a button, and it's loaded to the gills with great software.	\$399, 24-bit, 300 dpi (1,200-dpi enhanced). (800) 722-6538. See May 1997, page 96.
Digital Camera Olympus D-300L	Your trusty point-and-shoot camera goes digital with stunning results.	\$899, 6MB flash RAM, 1,024 by 768 resolution. (800) 347-4027. See Mar. 1997, page 78.
Sound Card Creative Labs Sound Blaster Awe64 Gold	Makes games so real you'll duck when bullets sing by your head. Oh yeah, it's great for business multimedia, too.	\$199, 64-voice. (800) 998-5227 ext. 135 See May 1997, page 103
Speakers Eminent Technology LFT-11	ls it live, or is it a pair of LFT-11's? Sound is so clean it's almost eerie.	\$599, speakers, receiver-amplifier, and subwoofer. (904) 575-5655. See Jan. 1997, page 136
UPS American Power Conversion Back-UPS Office	Don't count on lightning not striking twice-be prepared when it does with a backup battery and a surge protector.	\$149, 250-VA UPS, phone-line protection. (888) 289-2722 ext. 8012. See Dec. 1996, page 61.
Input Device Microsoft IntelliMouse	Do more with your mouse: Scroll through Office 97 documents and zip around Web pages with this mouse's thumbwheel.	\$85. (800) 426-9400. See Nov. 1996, page 173.

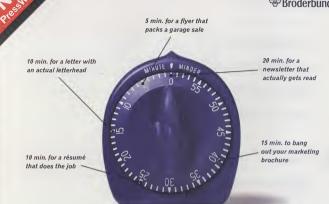


VIDEO HARDWARE

3-D for Free: Why settle? Today's Windows accelerators have it all: high resolution, photorealistic color, and onboard 3-D acceleration.

Top Pick	The Buzz	The Stats*
High-Resolution 20- or 21-Inch Monitor Samsung Electronics America SyncMaster 21GLs	Picture this: More Windows per square inch and razor-sharp text. This is one upgrade that pays for itself.	\$1,649, 21-inch, 1,600 by 1,200 pixels at 75Hz, Plug and Play. (800) 933-4110 See May 1997, page 191.
High-Resolution 17-Inch Monitor Wyse Technology Wysevision WY-17PS	The best-looking new 17-inch display is also one of the best deals going.	\$799, 1,280 by 1,024 pixels at 86Hz, Plug and Play. (800) 438-9973. See May 1997. page 191
High-Resolution 15-Inch Monitor NEC Technologies MultiSync M500	An affordable way to give the whole office a better view of Windows.	\$399, 1,024 by 768 pixels at 75Hz. (800) 632-4636. Stay tuned
Flat-Panel Display NEC Technologies MultiSync LCD2000	Glimpse the future on your desk with NEC's eye-popping 20.1-inch flat panel display. Emits zero radiation, too.	\$8,000, 0.31 pixel pitch, 20.1 inches, 8.5-inch depth, 1.280 by 1.024 resolution at 75Hz. (800) 632-4636. See Apr. 1997, page 79.

* Broderbund



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VIDEO HARDWARE continued

Top Pick	The Buzz	The Stats*
Graphics Accelerator Matrox Graphics Millennium	Pedal-to-the-metal Windows acceleration and onboard 3-D to boot. We'll take it.	\$219, 4MB WRAW, 1,280 by 1,024 pixels at 100Hz, PCI interface. (800) 583-4353. See Jan. 1997, page 133.
3-D Graphics Accelerator Creative Labs 3D Blaster PCI	Get in the game with Creative Labs' ultrafast 3-D games accelerator.	\$199, 4MB EDO DRAM, 1,280 by 1,024 pixels at 75Hz. (800) 998-5227 ext. 135. See Apr. 1997, page 80.
Video-Capture Card Miro Computer Products miroVideo DC20	Turn your home videos into art—or at least give them titles and transitions.	\$699, 640 by 480 resolution, 60 fps. (800) 474-6476. See Feb. 1997, page 280.
Presentation Projector In Focus LitePro 620	Make 'em sit up and listen. In Focus's projector turns your presentations into larger-than-life multimedia light shows.	\$8,999 list, 21 pounds, 800 by 600 SVGA resolution. (800) 294-6400. See Feb. 1997, page 78.
COMMUNICATION HARDWARE	Well-Connected: Ready to jump in any modem to Hayes, and you can tra	the 56K fast lane? Consider this: Send ide it in for a 56K model for just \$99.
Top Pick	The Buzz	The Stats*
High-Speed Fax Modem Practical Peripherals Practical External 336 with Voice	Fast on the Net and easy on your wallet, plus support for faxing and voice mail. Coming soon: a 56Kbps upgrade.	\$149, external, 33.6Kbps maximum speed. fax, voice mail. (800) 225-4774. See Mar 1997, page 181.

Meet face-to-face without flying coast-to-coast. Everything you need to turn your PC into a videophone.

External ISDN terminal adapter that'll blow you away, with a parallel-port connection to break the serial-port bottleneck.

Montana-the state without speed limits-is also the name of Motorola's 33.6Kbps PC Card modem. And with good reason.

No problem connecting your laptop to your Ethemet network with Xircom's CreditCard: Get 10Mbps or 100Mbps on the fly.

breaking the bank.

Practical External 336 with Voice

Network Interface Card

DESKTOP

Suite Deals: WordPerfect fans, take note: Corel's update to Perfect Office is

\$399, 33.6Kbps modem, 24-bit, full-color NTSC video card. NTSC color camera (800) 342-5877, See May 1997, page 292

\$260, external, parallel-port connection. three front-panel LED indicators. (800) 877-2677. See Apr. 1997, page 291. \$116, 10Mbps or 100Mbps. (800) 638-3266

\$199. optional cellular connectivity. 33.6Kbps data, 14.4Kbps fax. (800) 427-2624, Stay tuned.

\$169. PC Card type II slot, RJ-45 jack, two LED status indicators. (800) 438-4526. See Mar. 1997, page 78.

See Jan, 1997, page 140

APPLICATIONS	almost here. But can anything short of	almost here. But can anything short of a revolution unseat Microsoft Office		
Top Pick	The Buzz	The Stats*		
Software Suite Microsoft Office 97	An irresistible upgrade to the world's best-selling business application suite. It's chock-full of Internet smarts, too.	\$499 for Standard Edition, \$599 for Professional Edition, Windows 95 or NT (800) 426-9400. See Jan. 1997, page 87,		
Word Processor Microsoft Word 97	The standard for businesses everywhere. WordPerfect aficionados: Watch for an update to Corel WordPerfect Suite.	\$339, Windows 95 or Windows NT 3.51, 8MB RAM. (800) 426-9400. See Jan. 1997, page 87.		
Spreadsheet Microsoft Excel 97	It's a one-horse race and guess who's winning? Even Lotus's recent upgrade of 1-2-3 can't unseat this business favorite.	\$339, Windows 95 or Windows NT 3.51, 8MB RAM. (800) 426-9400. See Jan. 1997, page 87.		

ISDN/V.34 128 KBPS/33.6 KBPS Under \$600

At last you can have the best of both worlds – a V.34 33.6 Kbps modem with V.42 bis data compression and a 128 Kbps ISDN digital modem in a single PC Card (PCMCIA).

With Digi International's DataFire GO!" Series ISDN/V.34 combination PC Card, notebook computer users can

now connect to ISDN at home and

V.34 on the road – all with a single PC Card. As a result, high-speed remote connections to corporate LANs or the Internet have never been easier or more affordable.



Digi combines ISDN and V.34 with the DataFire GO! PC Card for users of Windows notebooks.

DataFire GO/ISDN/V34 PC Card features a built-in NT1, Multilink PPP, and free software for Internet access, Internet phone support and 14.4 fax support. All of that and more make the DataFire GO/ PC Card the perfect complement for busy. — notebook users on

the go!

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EVEN BEFORE THE MMX PC MAGAZINE DECLARED



Featured Computer Artist: Diane Fenste

NOW WITH MMX_TECHNOLOGY. Ever since the news came out about the new Intel® Pentium" processor with MMX" technology, savy computer folk have been racing to get hold of it. After all, it's the best and fastest Pentium rbip yet. MMX technology works wonders with multimedia, turns video into a life-changing experience, and even delivers richer Internet content. But which computer to buy? Well...ours. At least that's what *PC Magazine* thinks. In their review of twelve 200MHz systems, the Dell Dimension XPS M200s just won an Editor's Choice award for best business PC, and was named a price/performance leader. And in *PC Camputing's* survey, the XPS — which they called "a multimedia powerhouse outfitted for business" was judged the top performer (see graph). What can this mean? Probably just that in MMX technology, as in everything else, the race goes to the wrift.



Trice a complex copy of up Gaussiane can Limited Warnsteine, passes wins Dal LGAL P, Gino Bpl Way, Rend Sett, X. 70, 2002. "Gaussian stanging annupul by in-tryin learning second participation of the single strange without a comparise to a quiffact compare. Monois winner paintide part andereader the dispert synapsian and the single strange without a comparise to a quiffact control. The limits have log and Recurst and MMX is a transmised from Gaussian Strange Warnstein Strange without control. The limits have log and Recurst and MMX is a transmised from Gaussian Strange Warnstein Strange without the single str

TECHNOLOGY RACE BEGAN, AWINNER. PC Magazine Editors' Choice Award Dell Dimension XPS M200s

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DELL DIMENSION® XPS Pro200n 200MHz PENTIUM® PRO PROCESSOR

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- 512KB Cache (9.5ms)
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- Matrox Millennium 4MB WRAM Video Card
- * NEW 16X Variable EIOE CO-ROM Drive
- AWE32 Wave Table Sound Card
- · 33.6 U.S. Robotics Telephony Modern
- Altec ACS-490 Full Dolby® Surround Sound Speakers with Subwoofer
- Iomega Zip 100MB IDE Internal Orive with One Cartridge
- 2 Universal Serial Bus (USB) Ports
- *MS[®] Office 97 Small Business Edition
- MS Windows^e 95/MS IntelliMouse
- 3 Year Limited Warranty⁺ with 1 Year On-site⁺ Service
- Upgrade to 128MB EDO Memory with ECC, add \$599.



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DELL DIMENSION XPS M200s 200MHz PENTIUM® PROCESSOR WITH MMX® TECHNOLOGY

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- 512KB Single Bank Pipeline Burst Cache
- · 3.2GB Hard Orive (12ms)
- 1000HS Trinitron Monitor (15.9" v.i.s., 26dp)
- Matrox Millennium 4MB WRAM Video Card
- * NEW 16X Variable EIOE
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec ACS-290 Speakers with Subwoofer
- * 33.6 U.S. Robotics Telephony Modem
- * lomega Zip 100MB IDE Internal Drive with One Cartridge
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 MS Office 97 Small
- Business Edition
- 3 Year Limited Warranty with 1 Year On-site Service



DELL DIMENSION XPS M166s 166MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

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- 3 2GB Hard Drive (12ms)
- 800HS Trinitron Monitor (13.7" v.i.s.)
- Matrox Millennium 4MB WRAM
 Video Card
- * NEW 16X Variable EIOE CD-ROM Drive
- Sound Blaster 16 WaveSynth Wavetable Sound
- Altec ACS-290 Speakers with
 Suburgeter
- 2 Liniversal Serial Bus (LISR) Ports
- * MS Office 97 Small Business Edition
- MS Windows 95/MS IntelliMouse
- 3 Year Limited Warranty with
 1 Year On-site Service
- * Upgrade to 64MB SDRAM, add \$239.
- * Upgrade to a 4.3GB Hard Drive
- Copyrade to a 4.566 Hard bri (9.5ms), add \$75.
 PICTURED SYSTEM



NEW DELL DIMENSION M200a 200MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

- Mini Tower Model
 - * 16MB SORAM Memory
- 512KB Single Bank Pipeline Burst Cache
- 3.2GB Hard Drive (12ms)
- 800HS Trinitron Monitor (13.7" v.i.s.)
- · 2MB EDO VIRGE 3D Video
- 12X EIDE CD-ROM Drive
- 2 Universal Serial Bus (USB) Ports
- * MS Office 97 Small Business Edition
- MS Windows 95/MS Mouse
- 3 Year Limited Warranty with 1 Year On-site Service
- ★ Upgrade to 32MB SDRAM, add \$119.
- * Upgrade to a 17LS Monitor (15.7* v.i s.), add \$175.
- * 33.6 U.S. Robotics Telephony Modern, add \$109.
- ★ 3Com[®] 3C905 Fast EtherLink[®] XL 10/100 PCI Card, add \$109
- * Sound Blaster 16 PnP Sound Card and Altec ACS-90 Speakers, add \$89.
- Upgrade to a 104-Key Performance Keyboard, add \$29.

\$19999 Business Lease: \$74/Mo. Order Code #580502



DESKTOP APPLICATIONS continued

Top Pick	The Buzz	The Stats'
Database Microsoft Access 97	Lotus's \$109 Approach 97 is easier to use, but only Access 97 lets you publish live data to the Web. It's also faster.	\$339, Windows 95 or Windows NT 3.51, 12MB to 16MB RAM. (800) 426-9400. See Mar. 1997, page 171.
FINANCE SOFTWARE	Bank of the Internet: Fire your brok in a teller line again. Today's software	
Top Pick	The Buzz	The Stats*
Personal Finance Manager Intuit Quicken Deluxe 6 for Windows	Get branch-office checking right from your hard drive; handles retirement planning and investment tracking, too.	560, 386 CPU, 16MB RAM, 20MB hard disk space. (800) 624-8742. See Dec. 1996, page 100.
Business Accounting Intuit QuickBooks 5.0	An accountant that's easy to talk to, affordable, and always up-to-date, Also lets you do your banking online.	\$99, 486 CPU, 8MB RAM, 34MB hard disk space. (800) 446-8848. See Feb. 1997, page 90.
Stock and Portfolio Manager E*Trade Group E*Trade	Don't spend a fortune trying to make one by playing the market. This broker's on call 24 hours a day.	\$14.95 per trade for up to 5,000 shares. (800) 786-2573. See Jan. 1997, page 155.
NETWORK SOFTWARE	Mission Control: Got a Web site, an e-mail server, and a total network to run? With Windows NT you can do it all and still be home by 5:30.	
Top Pick	The Buzz	The Stats*
Network Operating System Microsoft Windows NT Server 4.0	At last! The first honest-to-goodness cross-platform operating system that's secure, stable, and easy to use.	5809 (NT Server with five clients). (800) 429-9400. See Jan. 1997, page 185.
Groupware Novell GroupWise 5	Your quest for the universal in-box is over. Groupwise is cross-platform, easy to use-and even handles your voice mail.	\$525 per server with five clients. Windows 95. (800) 453-1267. See Jan. 1997, page 165.
Group Scheduler Microsoft Outlook 97	One of the best reasons to upgrade to Microsoft Office 97. Keep tabs on your schedule—and everyone else's.	599 (or as part of 5499 Microsoft Office) (800) 426-9400. See Jan. 1997, page 87
E-mail Qualcomm Eudora Pro 3.0	An elaborate Internet mail client for anyone who lives and dies by e-mail. MIME support is included.	589 single user, Windows 95 or Windows NT, Internet access. (800) 238-3672. See Jan. 1997, page 165.
LAN Management Tool Intel LANDesk Management Suite	A network manager's dream. One utility gives you instant feedback on the network and everything connected to it.	\$750 (five nodes). (800) 538-3373. Stay tuned.
PERSONAL PRODUCTIVITY SOFTWARE	Competitive Edge: Let your softwar step ahead of the competition with the	
Top Pick	The Buzz	The Stats*
Contact Manager GoldMine Software GoldMine 3.2 for Windows 95 & Windows NT 4.0	Complete contact tracking plus mail merge, calendar with group scheduling, and more. You've never been so organized.	\$170, Windows 95 or Windows NT, 8MB RAM. (800) 654-3526. See Nov. 1996, page 104.

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Lotus Organizer 97 *ESTIMATED STREET PRICE \$79, Windows 95 or NT 4.0, 8MB RAM. (800) 343-5414. See Jan. 1997, page 156.





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PERSONAL PRODUCTIVITY SOFTWARE continued

Top Pick	The Buzz	The Stats*
Project Manager Microsoft Project for Windows 95	Be on time. Be under budget. Be spending your bonus in the Bahamas.	\$469, Windows 95 or Windows NT 3.51, 6MB of RAM. (800) 426-9400 See Jan. 1997, page 156
Communications Software Symantec WinFax Pro 8.0	Stop feeding the fax machinel WinFax Pro lets you send and receive faxes in batches—saving you time and money.	\$99, Windows 95 or Windows NT 3.5.1 or later, fax modem. (800) 441-7234. See Apr. 1997, page 105.
REFERENCE AND ENTERTAINMENT CDs	MMX-Ready: While DVD titles lang CDs are arriving in droves. Watch for	business titles to arrive by fall.
Top Pick	The Buzz	The Stats*
Business Reference MyAdvancedBrochures, Mailers, & More	Design firms charge big bucks for what you can do with this easy-to-use program that helps spread the word about your business	\$49, Windows 3.1 or Windows 95. (800) 325-3508. See Dec. 1996, page 218.
Home Reference Microsoft Bookshelf 96-97 Edition	The killer app for CD drives: essential library reference books all on one disc.	\$50, Windows 95 or Windows 3.1. (800) 426-9400. Stay tuned
Game Westwood Studios Command & Conquer: Red Alert	Command & Conquer fans get new worlds to vanquish and new armies to fight in this hot add-on.	\$55, Windows 95 or DOS. (800) 874-4607 Stay tuned
Entertainment Microsoft Encarta 97 Encyclopedia Deluxe Edition	The best all-around digital encyclopedia gets splashier with an extra disc packed with new multimedia.	\$80, Windows 95, NT, or 3.1. (800) 426-9400. Stay tuned.
GRAPHICS SOFTWARE	The Wait Is Over: At long last, Adobe Illustrator 7.0 for Windows 95 puts professional graphics power in the hands of mortals.	
Top Pick	The Buzz	The Stats*
Presentation Graphics Microsoft PowerPoint 97	Spend less time learning the software and more time making your point. New to 97: integrated Web publishing.	\$339, Windows 95, NT, or 3.51, 26MB to 58MB hard disk space. (800) 426-9400. See Jan. 1997, page 87.
Personal Desktop Publisher Microsoft Publisher 97	Turns any PC into an Instant vanity press. Builds instant Web pages, too.	\$80, 386 CPU, 8MB RAM, Windows 95, 6MB to 32MB hard disk space. (800) 426-9400. See Nov. 1996, page 93.
Professional Desktop Publisher Adobe Systems PageMaker 6.5	Top-of-the-line professional publishing for paper and the Web.	\$550, Windows 95 or NT, 8MB RAM, 24MB hard disk space. (800) 492-3623. See Dec. 1996, page 130.
Business Graphics CorelDraw 7	Whether you design professional ad campaigns or just like to sketch, this is the premier all-in-one graphics toolkit.	\$440 (\$200 upgrade), 486 CPU, Windows 95 or NT 4.0, 16MB RAM. (800) 772-6735. See Jan. 1997, page 94.
Personal Photo Editor Microsoft Picture It	Picture yourself actually having fun with all those old family photos that have been turning yellow in the closet.	\$55, Windows 95, 8MB RAM, 1MB VRAM, 75MB hard disk space. (800) 426-9400. See Jan. 1997, page 97.

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See Mar. 1997, page 88.

\$549, 486 CPU, Windows 95, NT, or 3.x, 16MB RAM, 20MB hard disk space.

\$595, Windows 95 or NT, 16MB RAM, 25MB hard disk space. (800) 649-3875.

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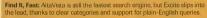
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Windows 95 System Utility Symantec Norton Utilities 2.0 for Windows 95	Resuscitate dead files and diagnose hardware problems before they happen. Everyone should have a copy.	\$79, Windows 95, 8MB RAM. (800) 441-7234. See Jan. 1997, page 161.
Windows NT System Utility Symantec Norton Utilities 2.0 for Windows NT	Keep your servers and workstations humming with the first complete set of system utilities for Windows NT.	\$99, Windows NT 4.0, 16MB RAM. (800) 441-7234. Stay tuned.
Antivirus Software Symantec Norton Antivirus 2.0 for Windows 95	Stops infections before they happen, and your best bet for conquering the nasty Concept virus.	\$50, Windows 95, 8MB RAM, 12MB free hard disk space. (800) 441-7234. See May 1997, page 110
OCR Software Caere OmniPage Pro 7.0	Converts scanned pages into editable text or publishes them right to your Web site. It beats typing by hand.	S499, Windows 95 or NT 4.0, 8MB RAM, 15MB hard disk space. (800) 736-5735. See Apr. 1997, page 167.
File Utility Symantec Norton Navigator	Picks up where Windows Explorer leaves off. Includes file management, file compression, and direct Net site access.	S99, Windows 95, 4MB RAM, 6MB hard disk space. (800) 441-7234. Stay tuned
Remote-Control Software Traveling Software LapLink 7.5 for Windows 95	Keep your notebook and desktop PCs on speaking terms: Sync files via a cable or dial your desktop from the road.	\$149, 386 CPU, 8MB RAM, 7MB hard disk space. (800) 343-8088. See Jan. 1997 page 156.
Application Development Tool	Visualize better custom apps. This	\$499, Windows 95 or Windows NT, 30MB
Microsoft Visual Basic 5.0 Professional Edition	version adds dockable toolbars and the ability to edit multiple projects at once.	to 220MB RAM. (800) 426-9400. Stay tuned.
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Top Pick	The Buzz	The Stats*
Search Engine Excite	If you can't find it in Excite's more than 50 million pages, it probably isn't on the Web.	Free, www.excite.com. (415) 569-2129. See Mar. 1997, page 301.
Internet Utility	The ultimate personal Web librarian; ask	\$49. Windows 95 or Windows NT. 8MB
Quarterdeck WebCompass 2.0	it a question and it finds, organizes, and summarizes the answer for you.	RAM, Internet access. (800) 354-3222. See Jan. 1997, page 172.

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National Internet Service Provider UUNET	Get global or national hosting from the biggest, oldest, and best ISP for businesses. Just in: support for DSL.	\$30 per month, Web hosting starts at \$300, per month. (800) 258-4039. Stay tuned.
News Service PointCast Network	Custom news feeds and stock quotes delivered right to your desktop. Get it free at www.pointcast.com.	Free, Windows 95, NT, and 3.1, Internet access. (408) 253-0894. See Jan. 1997, page 172
Financial Service Quote.com	Up-to-the-second stock quotes and expert trading advice—without the sales pitch.	\$9.95 to \$99.95 per month, Internet access, www.quote.com. Stay tuned.
WEB COMMUNICATIONS Top Pick	Virtual Meetings: Picture yourself o yourself working at home with collab The Buzz	
Internet E-mail Qualcomm Eudora Light 3.0.1	The lite version of Qualcomm's e-mail package is perfect for quick-and-dirty Internet messages. It's free too.	Free at www.eudora.com, Internet access. (800) 238-3672. See May 1997, page 140.
Internet Phone Microsoft NetMeeting 2.0	Slash your long-distance phone bills use the Net to place calls for free.	Free, Windows 95 or Windows NT. (800) 426-9400. See Feb. 1997, page 133
Internet Fax NetCentric FaxStorm	A cheap and easy way to send faxes from your PCto anywhere in the world, it's perfect for frequent travelers.	Free download, 15 cents per minute for domestic faxes. (888) 767-9273 See Feb. 1997, page 127
Internet Videoconferencing White Pine Software CU-SeeMe 3.0	Get face time on the Web. Just add an Inexpensive camera for face-to-face meetings via the Net.	\$99, \$69 if you download. (800) 241-7463. See Feb. 1997, page 155.
WEB DEVELOPMENT TOOLS Top Pick	Genuinely Useful Java: New Java b less work for you, smarter Web pages The Buzz	
Web Publisher Microsoft FrontPage 97	Everything you need to design a Web site without writing a line of code. You supply the content, FrontPage handles the rest.	\$149, Windows 95 or Windows NT, 486 CPU, 16MB RAM. (800) 426-9400 See Feb. 1997, page 102
Web Server Software Microsoft Internet Information Server 3.0	The fastest NT Web server software we've seen. And it's free for NT Server owners.	Free for NT Server users. Windows NT 4.0, 486 CPU, 16MB RAM. (800) 426-9400 Jan. 1997, page 177
Site Management Software NetObjects Fusion	Still the easiest for basic Web pages, but watch for Random Noise's soon-to- be-released Coda to do it all in Java.	\$495, 486 CPU, Windows 95 or Windows NT, 16MB RAM, 60MB hard disk space. (888) 449-6400. See Mar. 1997, page 100
Commerce Server ICat Electronic Commerce Suite 3.0	If only setting up a real storefront were this easy or secure. ICat handles everything from page creation to order logging.	\$3,495, Windows 95 or Windows NT 3.5.1. 486 CPU, 16MB RAM. (888) 533-8800. See May 1997, page 84.
Web Animation Software Macromedia Flash	Want to get your Web site moving without making it too big? Flash makes interactive animations in as little as 3K.	\$249, Windows 95 or Windows NT, 486 CPU, 16MB RAM. (800) 457-1774. Stay tuned.
Java Development Symantec Visual Café "ESTIMATED STREET PRICE	Build applets any way you want. Get into brute-force scripting, or crank out applets in minutes using Café's visual tools.	\$199, Windows 95 or NT, 486 CPU, 8MB RAM, 60MB hard disk. (800) 441-7234. See Apr. 1997, page 126.

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Stop deluding yourself. The check isn't in the mail. Your vote doesn't really count. All men were not created equal. Quality is not Job 1. The meek won't inherit much. If you're in government, crime actually pays pretty well. It's all part of the Big Lie. But for flat-out, pedal-to-themetal, high-octane fibs, nothing beats the PC world. Somebody

already exposed the one about exaggerated computer screen sizes, but there's plenty more where that came from:

> **56K is 56K.** It's not. At best it's only 53K or less, it's only 33.6K through PBXs, and it's only fast downstream.

33.6K is 33.6K. On a typical dirty line on a good day, it's maybe 24K to 26K. If you're lucky.

NT is wrong for notebooks. So it doesn't have Plug and Play or decent Power Management. Big deal. It's a real 32-bit OS with real security, not the toy that comes with Win 95.

T1 is all the bandwidth you'll need. Until everyone in your office hops on at the same time and it all clogs to a crawl.

Oops, sorry, it's cable modems that provide all the bandwidth you'll need. Ditto.

Anyway, it's all a bandwidth problem. More delays than you think are from slow servers choking under unanticipated loads.

Office 97 "Help" finally works, Same dol lousy system, but with cute animated characters who is there exacting themselves while you stew. The natural-language interface is a joke, and using the Help/Find feature produces a long list of hins as useless and frustrating as the output of a Web search engine. Hromm, Bill did tell his troops to make everything Web-like, but this car't be what he meant.

Today's notebook batteries can go coast-to-coast. Of Florida maybe. For NY-LA flights, dim your screen, yank out the PC Card modem, go easy on hard-disk access, and forget about using your CD.



Bill did tell his troops to make **everything Web-like,** but this can't possibly be what he **meant.**

200MHz Pentiums are way better than 166s. Only if you consider a marginal speed boost "way better."

A 150MHz system is a great entry-level deal. These turkeys use a slow 60MHz buss. Some 133s, with 66MHz buss, are faster. Pony up the few extra shekels for a 166 (which also uses a 66MHz bus). Everyone truly needs a top-ofthe-line superfast system. Except for the vast majority of workers who use their PCs for word processing, e-mail, and Web surfing.

It costs \$9,784 a year to run a standard Win 95 PC. This bizarre Gartner Group figure is quoted like gospel, but it is insanely exaggerated, factoring in all sorts of bloated IT overhead, training that never happens, and self-admitted "fuzz factors."

The "year 2000 bug" is going to destroy the world and cost billions. Total B5 from consultants who want to rake in millennial bugfix dough. This assumes that all software will remain static for three years. Considering the rapid upgrade and replacement cycles today, if this assumption is true with your company, you're in much bigger trouble than you think.

With Windows 95 the OS is finally easy to use. Yeah, right. And there's a UFO behind Hale-Bopp, too.

OK, but the next generation of Windows will really be the one that's easy to use. Not even close.

Maybe, but someday in the future there really will be a version of Windows that's easy to use. Don't bet the farm on it.

There's more. NCs will replace PCs (in your dreams). Sixteen megs is enough, and 32 is all you'll ever need (until you actually try to get some work done). You really don't have to pick a tricky password, or change it ever (if you don't care about your data). It's a snap to reformat your drive and reinstall Windows (or push a pea across the country with your nose). Anyone can create a great Web page (that will look like everyone else's ugly, templated, static pages), Nobody is making money on the Web (except the inventive, smart ones). Yeah, and Apple will bounce back. Honest,

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Talk About Big Bucks

And on the eighth day God slapped His head and moaned, "Why did I give them tongues?" Humans are born blabbermouths—whether through design defect or divine gift. And a few wily Web entrepreneurs see multimillion-dollar fortunes in this foible. Ridiculous, right? Online chat is boring and trite, at best. It is the province of dullards and the emotionally

insecure, at worst. Also, it's inescapable. More spew flows through

the Net today than through a wastetreatment plant on the outskirts of Calcutta. Show us the twit who believes he can turn a nickel on cyberchat; we'll show you a great business partner for that Kaypro PIM you've been wanting to develop.

Say What? Buile's not be hasy. A hundred years ago no one believed her phone company would recoup its start-up costs. Ma Bell discovered early on America's Oline's for yeak. Today chat accounts for up to one-third of America Online's revenues. By the year 2000, chat will have consumed roughly 7.9 billion hours of online time. That's a lot of jabber.

But more interesting are the comparises that see money in it. The Palace, a start-up backed by smallfries Intel and Time Warner, makes software for creating 3-D chat worlds. Vore 1,000 sites already use the technology, including an obscure outfiellule frox Television. LiveWorld Productions, creators of Talk City one of the most popular chat sites on the Web—Had not rouble raising 59 million in chump change last year. Pipsquedss Microsoft and Netsape have built chat into their browsers and are rushing it to their sites.

So chat is popular. But how exactly do you make money from it? As droves of advertisers begin turning away from most Web venues, chat sites still draw big bucks. No wonder: Their audiences are both large and contented. Most Web suffers spend less than 7 minutes at any site before clicking to the next thrill. Chatters average 40 minutes per visit. In other words, chat turns suffers into settlers.

WebGenesis's The Globe, a chat page for 18- to 25-year-olds, has become one of the most popular Taylor & Jerome

Give people a **reason** to **linger** at your site, and they'll invent ways to **unload** their cash.

sites on the Web. While well-trod, big-name sites struggle to attract ad dollars from any half-legitimate organization they can find, WebGenesis teams with paid promos from the likes of AT&CT, Microsoft, and Intel. America Online has just added advertising to its chat room, which could hand-deliver as much as 5000 million a year in revenues.

Ads aren't the only way to turn gab into gold. Content and commerce sites use chat to encourage repeat visits. ESPNet's SportsZone, for example, schedules times for open rap with sports personalities. Shoot the bull with Michael Jordan, and you'll bookmark that page for life. You're also likely to be lured into tasting the other content available at the site. And don't dismiss the value of chat itself. Millions of people will pay for the privilege—especially if you create the right ambience, attract the hippest throngs, and make something more of gab-fests than dry strings of typed text.

Money Talks Find the right adhemy, and you can charge a cover. The Total Cosmic Cavern on the Total New York Web site features 2-D environments based on the Cosmic Cavern VIP lounge in Manhatran. A swank place to chill on the WebP Yes, but the Cavern also provides sponsorship opportunities including product placements—for example, a particular brand of Vodka is given prominence at the Cavern's virtual bar.

Another nightspot, Talk City, went live on the Web last April, yet it already receives about 19 million page-views a day from 70,000 users. Not a bad crowd for a joint that doesn't fret fire-code violations.

Both sites owe their popularity to ambience. But avarts, 5-D worlds, voice chat, moderators, videoconferencing, and a host of other technologies, themes, and ginmicks are remaking traditional chat. They're people a reason to linger at your site, we to building community. Give people a reason to linger at your site, and they'll practically invent ways to unload their cash there. This has been the lesson not only of nightcubs and theme parks, but also of shopping malls, convention centers—even airport waiting areas.

Of course, online community is an ephemeral affair. Chat alone can't create it. No one is going to hang out at Proctor & Gamble's site to jaw about laundry detergent. But given the human affinity for gab, talk isn't cheap. It's a growth industry.

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Net Addiction

It's called Internet Addiction Disorder, and it's controversial in the psychiatric community. Support groups are popping up all over the Internet, where people are moaning and groaning about spending too much time online. Mental-health professionals are cautioning people about excessive Net use. Checklists of warning signs help tell whether yow are addicted.

Unfortunately, everything surrounding this

phenomenon seems half-baked. There are numerous online discussions and many so-called Webaholic sites where people ironically use the Web (the source of addiction) to confess their problems, much as they would in a 12-step program.

Many online self-tests help determine if you're addicted. The following is adapted from the National Counseling Intervention Services:

Ten Symptoms of PC Addiction

1. Can't control time on machine.

2. Lie about time spent.

Suffer negative consequences from time spent.

 Compromise morals by using anonymous personae.

Have an overdeveloped sense of importance for the PC in your life.

6. Experience mixed feelings of euphoria and guilt from being online.

Become depressed when sessions are cut short by outside influences.

8. Are preoccupied with PC use.

Use the computer as an outlet when depressed or sad.

10. Cause financial problems from computer use.

According to NCIS, if you have any one of these symptoms, you may be additted. If you have three, you might as well check into the nearest insane asylum. But this list scens oriented toward obsessive chat-room behavior and dosen't address true computer addiction, which is poorly understood.

Some associate Net addiction with alcoholism—a dubious analogy. According to one observer, Khang Le, "Internet addicts acquire and require an increasingly high tolerance for the Net, just as alcoholics do for alcohol. For example, most people get drunk after two or three drinks, but alcoholics need a double or triple amount to get



John C. Dvorak

If you have **these symptoms**, you might as well check into the nearest

insane asylum.

them drunk. Similarly, Internet addicts can't just check e-mail two or three times a day or surf the Net for one or two hours like other computer users."

Kimberly Young, head of the Center for Online Addictions in New York, is quoted by Le as saying, "they become compulsive, logging on every time they walk by the computer or checking e-mail 20 or 30 times a day." Again this seems more like an obsession than an addiction.

Many analysts view the addiction as

part of ageneral personality disorder. They tend to describe addicts as, to put it bluntly, introverted geeks with empty lives. But anyone who, like myself, is online a lot because of my work, sees a different picture. Most Internet users are normal go-getters. And many celebrities spend lots of time online—Arsenio Hall discussed his fascination with chat rooms on the *Tonght Show*, and he certainly can't *Complet Show*, and he certainly can't

I question the expert conclusions that addictive behavior is based on personality disorders. I have to wonder if a more deeply rooted mechanism similar to the one that produces euphoria in joggers and slot-machine users—is behind Net addiction.

My thesis is that the mouse itself is the addictive mechanism. Think about it: Using a mouse is to computing what pulling a lever is to slot-machine gambling. The mouse makes you feel far more connected to your machine than typing does—it becomes an extension of yourself.

Windows Connection Also note that the sudden explosion of addictive behavior coincides with the increased use of Windows. I make this claim because of the fanatical behavior exhibited by Mac owners—the first to be introduced to the mouse. They all fell in low with their computer.

This fanaticism just recently hit the PC world. The only thing both platforms have in common is the mouse—the "new" way to interact with the computer. Sure, chat rooms come up when online addiction is discussed, but people are probably more addicted to mindless Web surfing (mouse clicking) than to chat rooms.

It's time we did some real studies on this phenomenon rather than categorize everyone who spends too much time on the computer as having a personality disorder. Now back to mindless surfing!

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New! **Ultrafast MMX: Pentium**



In certain aboriginal parts of Borneo, tribal war PREVIEW chiefs may hold

power for no more than three hunting seasons before they must surrender to a vounger warlord-they're pushed from power before their prime. So it is with CPUs. Just as Intel's Pentium Pro begins to enjoy a commanding presence in corporations migrating to Windows NT, along comes the Pentium II: It's faster, more nimble with multimedia, and far more versatile where upgrades are concerned.

PC Computing's Labs got

an early look at nine spanking new 233MHz and 266MHz Pentium II systems. Results from our performance and usability tests should serve notice: Don't invest another cent in a Pentium Pro for the desktop. For the best Windows NT performance possible, shift to the Pentium II.

Restless Natives In business application benchmarks, Pentium II systems ran as much as 22 percent faster than the fastest Pentium Prowe've tested. The spread in performance was broad, however, and the slowest of the 233MHz systems actually

lagged behind the fastest Pentium Pros. Still, none of our benchmarks included apps recompiled for MMX, which is where the Pentium II will really shine. The actual throughput you get depends mightily on your system's memory technology, plus video and hard drive performance. Engineering matters.

The Pentium II, codenamed Klamath after a roiled river in Oregon, is more than just a simple upgrade to the Pentium Pro; it's a conceptual overhaul of Intel's entire Windows NT strategy. The Pentium II retains the same core instruction code as the Pro, but its clock speed jumps from 200MHz to 233MHz and 266MHz. And there's room to spur it faster still. In closeddoor gatherings. Intel has shown experimental versions of the chip running as fast as 400MHz (and without a fire extinguisher on hand).

The Pentium II also gains the 57 MMX extensions already used in high-end versions of the Pentium chip. This should finally allay any doubts about multimedia's growing role in business computing. It demonstrates the high stakes Intel is wagering on the new



Dell Dimension XPS H266 MT to to to to

Verdict: A performance leader with solid value.

Pros: Top-drawer performance: loaded to the nines.

Cons: The Gateway costs less.

Features As Tested: 266MHz Pentium II. 512K L2 cache, 64MB of EDO RAM, 6,4GB EIDE hard drive, 16-speed CD-ROM drive, lomega Zip drive, 16-bit audio with speakers, 17-inch monitor.

\$3.999 est, street price Dell Computer Corp. (800) 388-8542 Reader Service No. 619

Digital Celebris GL-2 ST

to to to to Verdict: A high-end workstation

with room to grow.

Pros: Can take two CPUs: SCSI hard drive: networking features.

Cons: High price: 233MHz chip.

Features As Tested: 233MHz Pentium II. 512K L2 cache, 64MB of EDO RAM 4GB Ultra-Wide SCSI hard drive, 16-speed CD-ROM drive, 16-bit audio, integrated 10Base-T/ 100Base-TX, 17-inch monitor,

\$6.796 est. street price Digital Equipment Corp. (800) 722-9332 Reader Service No. 620

Hewlett-Packard HP Vectra VL 6/266 thing

Sector 12:00

Verdict: An excellent high-end corporate workhorse.

Pros: Doesn't skimp on extraspriced to sell.

Cons: The Compag is faster.

Features As Tested: 266MHz Pentium II, 512K L2 cache, 64MB of EDO RAM, 4.6GB EIDE hard drive, 16-speed CD-ROM drive, 16-hit audio 17-inch monitor

\$4,065 est. street price Hewlett-Packard (800) 752-0900

Guide to PC Computing's Ratings	
Excellent Market leader that offers exceptional performance	मंत्रांत्रेयं
Good Excels in many areas; a good buy	*****
Acceptable Average for its class; a justifiable purchase	***
Poor Out-of-date or substandard; offset by some positive features	**
Unacceptable Missing necessary features; avoid	☆

II Upstages the Pro



Gateway G6-266 Multimedia

Verdict: The best way to run Windows NT.

Pros: Barn-burning performance; superb dollar value. Cons: None

Features As Tested: 266MHz Pentium II, 512KL2 cache, 64MB of EDO RAM, 6.4GB EIDE hard drive, 16-speed CD-ROM drive, lomega Zip drive, 16-bit audio with speakers, 17-inch monitor,

\$3,349 est. street price Gateway 2000 (800) 846-2000 Reader Service No. 62 r

technology, despite slow acceptance of MMX among software developers. The Pentium II may well provide the impetus developers have been waiting for to recompile their apps to take advantage of MMX.

The chip's packaging is also entirely new—partly to reduce costs, and partly to provide system makers with a wider range of alternatives in motherboard design and upgrades. It comes in a netal and plastic-encased card dryly called a single-edge-contact (SEC) cartridge. It's about as wide as a Nintendo cartridge but with half the depth.

Unlike the Pentium Pro, the L2 cache on the Pentium II is separate from the chip itself. This is where the cost savings come in—but it's also where the chip takes a performance hit. The Pentium II's L2 cache runs at half the speed of the processor—far less efficient than the Pentium Pro's onboard cache, which runs at the same speed as the processor. To compensate for this performance lag, Intel raised the chip's L1 cache from 16K to 64K. Company officials claim that while cache-to-CPU calls are less efficient on the Pentium II, the larger cache size more than compensates.

The SEC packaging lets Intel ramp up the speed of the CPU without having to integrate ever-faster (and evercostlier) SRAM caches. It reduces electrical emissions typical of high-speed CPUs. And, not coincidentally, it sends AMD and Cyrix back to the drawing board to come up with cloned packaging for their high-end CPUs without infringing on Intel's patentsincluding patents on the Pentium Pro and Pentium II bus, which are protected by Intel.

The new packaging lets system makers easily retrofit existing Pentium Pro motherboards with a single connector. As SEC cards adopt faster CPUs, faster caches, and new cache interfaces, system makers don't have to invest a penny in motherboard redssigns. The result: New versions of the Pentium II will trundle to marker far faster than any previous CPU in the Intel family, and prices of Pentium II systems will drop equally as fast. By the end of this year, Pentium II PCs should cost less than current Pentium Pros.

Old Pro Does Intel's latest and greatest put the 200MHz Pentium Pro out to pasture? Hardly. Pentium II systems support only two CPUs. The faster cache on the Pentium Pro and its support for up to four CPUs make it an ideal platform for servers. On the other hand, Intel does not plan to raise the Pentium Pro's current clock speed above 200MHz; the chip has clearly reached the apex of its career.

Don't expect to see the Pentium II in portables, either. Its ravenous power demands and unusual packaging forbid it. A mobile version of the chip, code-named Deschutes, is expected to arrive by early next year. The first versions will probably run at 300MHz. By the time it arrives, Windows NT may finally support power management, which it now lacks.

The plain-Jane Pentium shows plenty of life as well. It's currently the only solution for portable PCs, thanks to its dual-voltage design. And Intel hopes the 200MHz MMX CPU will reinvigorate the consumer desktop market to avoid a replay of last year's dismal Christmas season, Prices of basic Pentium systems will continue to drop, though they've already taken their biggest spill. By year's end, the 133MHz version will probably fade away, leaving the 166MHz and 200MHz CPUs as the only heirs to that family of chips.

Let's see, we've got various flavors of the MMX Pentium,

New! Sneak Peek: The First Pentium II Supersystems

Life at 266MHz Windows Application Performance	
Dell Dimension XPS H266 MT	and a set of some
Gateway G6-266 Multimedia	\$11
Compag Deskpro 6000 M6266/4200/CDs	The same
Polywell Poly 7266S5	19mm
Hewlett-Packard Vectra VL 6/266	125-50
Quantex QP6/266 SM-4	11%,766
Digital Celebris GL-2 ST	Dist.
AST Brave LC 6233	
Unicent Titana II 233XLS	Els Sons
Dell Dimension GX (Pentium Pro)	in

NOTE: WINSTONE 57 IS A TEST THAT BURS 14 OF THE MOST POPULAR MINDOWS BUSINESS APPLICATIONS WINDER WINDOWS 35 AND WINDOWS NT

Pentium Pro Meets MMX: Even Windows NT gets a boost from Intel's new 266MHz and 233MHz Pentium II MMX chips, thanks to a bigger cache and faster clock speeds. Dollar for dollar, the 266MHz version of the chip (found in the top six systems here) delivers the best performance value.

the Pentium Pro, the Pentium II, and Deschutes-all hurling toward us before next New Year's Day. And by this time next year a chip code-named Katmai, which will feature second-generation MMX technology (with support for 3-D geometry and dual floatingpoint operations) will arrive. These are just the CPUs from Intel, Cvrix, AMD, and Digital also have a menagerie of new offerings they'd love to see on your desktop, (See "K6 Systems Take On MMX," page 103.)

Dazed and Confused As you can see, every computing niche imaginable will have a made-to-order chip for it. Purchase decisions will become bewilderingly complex in the coming months. But today the solutions are straightforward. If you're running Windows NT on the desktop, a Pentium II is your answer. Prices for first-generation systems range from less than \$3,000 to more than \$5,000.

The top performers in our roundup are familiar faces. Running at 266MHz, systems from Dell, Gateway 2000, and Compag stole the lead. Their performance in business application benchmarks varied by less than 10 percent, Polywell, Hewlett-Packard, and Quantex machines also use 266MHz versions of the Pentium II. All three followed close on the heels of the leaders. For that matter, the Digital-which has a 233MHz CPU-performed nearly as fast as the Quantex.

The Unicent Titana II 233XLS and the AST Bravo LC 6233, on the other hand, dropped considerably behind the pack. In fact, they were slightly slower than Dell's superspeedy 200MHz Pentum Pro in business applications. But when running a broad range of NT applications, both



Polywell Poly 7266S5

Verdict: An excellent value for tight budgets.

Pros: Irresistible price; respectable performance.

Cons: The Dell, Gateway, and Compagiare faster.

Features As Tested: 266MHz Pentium II, 512K L2 cache, 64MB of EDD RAM, 5.1GB EIDE hard drive, 12speed CD-ROM drive, 16-bit audio with speakers, 17-inch monitor.

\$2,956 est. street price Polywell (800) 999-1278 Reader Service No. 622



Quantex QP6/266 SM-4

Verdict: Solid dollar value.

Pros: Low cost; decent performance.

Cons: The Polywell is faster and cheaper.

Features As Tested: 266MHz Pentium II, 512K L2 cache, 64MB of EDD RAM, 4.3GB EIDE hard drive, 12-speed CD-ROM drive, 16-bit audio with speakers, 17-inch monitor.

\$3,099 est. street price Quantex (800) 787-8686 Reader Service No. 623

systems showed considerably better throughput than the Pentium Pro. And remember, the Pentium II includes MMX; the Pentium Pro does not.

Performance isn't the only thing that matters, of course. With the Pentium II you get a generational leap in system configurations. Every machine we tested, for example, came with 64MB of EDO RAM. For most, this is the base configuration. Only the AST came with a 2GB hard drive; most came with 4GB, and the Gateway G6-266 Multimedia and the Dell Dimension XPS H266 MT sported a whopping 6.4GB drive. Incidentally, many system makers that have traditionally outfitted their systems with EIDE interfaces are opting for the higher transfer rates of SCSI.

Big League The Gateway and the Dell—which are configured nearly identically—

lead the pack in overall performance, Along with their 64MB of EDO RAM and 6.4GB EIDE hard drives, both machines feature a 16-speed CD-ROM drive, an Iomega Zip drive, 16-bit audio with speakers, and a 17-inch monitor. The Dell nosed ahead of the Gateway in overall performance by about 4 percent, and features 8MB of WRAM on its video card, compared with the Gateway's 4MB of EDO DRAM. On the other hand, the Gateway's \$3,349 price (which includes wavetable support on its audio card) makes it \$650 cheaper than the Dell. As bang for the buck goes, the Gateway is the best value of any Pentium II you'll find.

Compaq's Deskpro 6000 M6266/4200/CDS performed third fastest overall, though its SCSI drive pushed its throughput to the equivalent of (and sometimes faster than) the Dell

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NCW! Sneak Peek: The First Pentium II Supersystems

Windows Application Performance	1
Dell Dimension XPS H266 MT	Tentinie
Gateway G6-266 Multimedia	10% Failer
Compaq Deskpro 6000 M6266/4200/CDs	1900 Factor
Polywell Poly 7266S5	T2x radio
Hewlett-Packard Vectra VL 6/266	1210-64100
Quantex QP6/266 SM-4	115,0.000
Digital Celebris GL-2 ST	Ard Finster
AST Bravo LC 6233	
Unicent Titana II 233XLS	and the second sec
Dell Dimension GX (Pentium Pro)	fac.e.

NOTE: WWWSTONE 97 IS A TEST THAT RUNS 14 OF THE MOST POPULAR WINDOWS BUSINESS APPLICATIONS UNDER WINDOWS 95 AND WINDOWS NT

Pentium Pro Meets MMX: Even Windows NT gets a boost from Intel's new 266MHz and 233MHz Pentium II MMX chips, thanks to a bigger cache and faster clock speeds. Dollar for dollar, the 266MHz version of the chip (found in the top six systems here) delivers the best performance value.

Rush

New Order!

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Polywell Poly 7266S5

Verdict: An excellent value for tight budgets.

Pros: Irresistible price; respectable performance.

Cons: The Dell, Gateway, and Compagiate faster.

Features As Tested: 266MHz Pentium II, 512K L2 cache, 64MB of EDO RAM, 5.1GB EIDE hard drive, 12speed CD-ROM drive, 16-bit audio with speakers, 17-inch monitor.

\$2,956 est. street price Polywell (800) 999-1278 Reader Service No. 622



Quantex QP6/266 SM-4

Verdict: Solid dollar value.

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Cons: The Polywell is faster and cheaper.

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the Pentium Pro, the Pentium II, and Deschutes—all hurling toward us before next New

Year's Day. And by distinct next year a chip cod Katmai, which will second-generation MI nology (with support geometry and dual point operations) wi These are just the CF Intel. Cyrix, AMD, an also have a menagerio offerings they'd love 1 your desktop. (See "K. Take On MMX," page

Dazed and Conf you can see, every co

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The top performers in our

systems showed considerably better throughput than the Pentium Pro. And remember, the Descine II. includes MOCK.

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lead the pack in overall perfor-

mance, Along with their 64MB





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New! Sneak Peek: The First Pentium II Supersystems



AST Bravo LC 6233

Verdict: An affordable low-end solution.

Pros: Prices start as low as \$2,300. Cons: Lazy performance: 233MHz

chip; minimalist configuration.

Features As Tested: 233MHz Pentium II, 512KL2 cache, 64MB of EDD RAM, 2GB hard drive, 16-speed CD-ROM drive, 17-inch monitor.

52,950 est. street price AST Computer (800) 876-4278 Reader Service No. 624



Compaq Deskpro 6000 M6266/4200/CDS

WWW

Verdict: A Fortune 500 speed demon.

Pros: Undaunted performance; Compag quality.

Cons: Country-club price; no USBs; eight-speed CD-ROM drive.

Features As Tested: 266MHz Pentium II, 512KL2 cache, 64MB of EDD RAM, 4.2GB Ultra-Wide SCSI hard drive, eight-speed CD-ROM drive, 16-bit audio, 17-inch monitor.

54,799 est. street price Compaq Computer (800) 345-1518 Reader Service No. 625 PEComantian

Unicent Titana II 233XLS

Verdict: We'll wait for the 266MHz version.

Pros: Big SCSI hard drive.

Cons: Only a 233MHz chip; high price.

Features As Tested: 233MHz Pentium II, 512K L2 cache, 64MB of EDO RAM, 4.2GB SCSI hard drive, 12-speed CD-ROM drive, 16-bit audio with speakers, 17-inch monitor.

\$4,299 est. street price Unicent Technologies (800) 320-1475 Reader Service No. 626

or the Gateway in some multimedia and database applications. Even so, it lagged behind the leaders by less than 8 percent. The machine offers Compaq quality through and through, although its eightspeed CD-ROM drive is antiquated—especially given the machine's \$4.799 price.

Polywell's Poly 726655 takes top honors for high performance on a tight budget. It costs 52,956, which gets you 64MB of EDO RAM, a 5.1GB EIDE hard drive, a 12-speed CD-ROM drive, speakers, and a 17-inch monitor. Its performance lagged only slightly behind the Compaq.

The \$3,099 Quantex QP6/266 SM-4 also delivers solid dollar value, given its 4.3GB EIDE hard drive, 12speed CD-ROM drive, and 4MB of WRAM. On the downside, its performance was 11 percent slower than the Dell's. For many, this is a small sacrifice. Both the Quantex and the Polywell deliver faster performance and more features than many machines that cost thousands of dollars more.

Workhorse 1:P's Vectra VU. L/266, which performed only slightly slower than the Polywell and the Compaq, surprised us with its aggressive pricing, Mind you, \$4,065 sint exactly a bargain-hunter? dream. But the IP comes with a 4.6GB EIDE hard drive and room for expansion. It's an excellent corporate platform for workgroup applications and high-end graphics.

So is Digital's Celebris GL-2 ST—if you've got a generous budget. It costs about \$6,796, which is steep considering it's a 233MHz Pentium II, compared with the faster 266MHz models. Even so, it ran only about 6 percent slower than the Quantex. And the machine can take two CPUs for advanced modeling. CAD, high-engraphics, and other processor-hungry applications. It comes with a 4GB Ultra-Wide SCSI hard drive, 8MB of WRAM on its video card, a 16-speed CD-ROM drive, and integrated 10Base-T and 100Base-TX bhernet. It's better equipped than the Compag, even though it's slower.

⁵ Systems from AST and Unicent rounded out the low end of the performance scale. No one would call these machines sakers, but both lagged behind Dell's superfast Pentium Pro, Mind you, they're faster than most Pentium Pros, and NT apps recompiled for MMX will fly under their spell.

The AST Bravo is undoubtedly the better of the two. Aimed at small-office/homeoffice buyers, the machine's base price is an astounding \$2,200 with 32MB of RAM. Dress it up with another 32MB of EDO RAM and a 17-inch monitor, however, and the price jumps to \$2,950. This is within reason, but the system's configuration is comparatively miserly. You get a 2GB hard drive, 2MB of memory on the video card, and audio costs extra. To its credit, it comes with a 16-speed CD-ROM drive. But dollar for dollar, better deals abound.

The Unicent, by comparison, seems oddly out of line. System prices fluctuate like pork-belly futures, of course, and we have no doubt that the machine's \$4,299 price will take a tumble. The Unicent certainly offers a fine brew of components: a big 4.2GB SCSI hard drive, a 12-speed CD-ROM drive, and 4MB of WRAM on the video card. You'll certainly want to keep this machine on your radar screen, all right. But wait for the sale. MARTY JEROME



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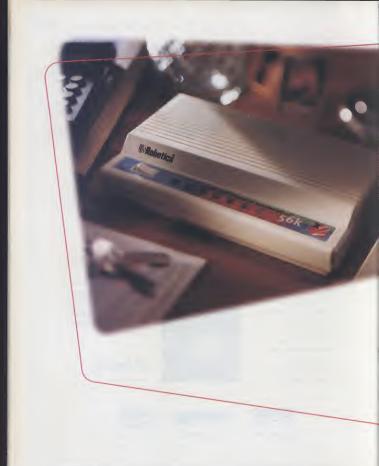
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Introducing the new x2" Technology 56K modems from U.S. Robatics, the fastest modems ever created for regular phone lines. x2 is not only available at your local computer store right now, it has also earned the quick support of most major Internet service providers, including America Online, CompuServe, NETCOM, and Prodgy, (Not to mention more than 500 other ISPs who have pledged their support – 200 of which are live now, with local access.)

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One company delivers the support of computer companies, worldwide acceptance by ISPs, and upgradability to the future standard – the same company that connects more people to the Internet than any other. Visit our Web site at www.usr.com/x2now or call 1-800-525-USR1 to find an ISP near you that has live x2 service today. What are you waiting for?

Robotics

Robotics



HP Vectra PCs

002 100M \$00

Next time you're thinking about choosing a business PC, consider: instead of running around and locating each and every PC in your network, you can save your

breath by using HP Vectra PCs. Our Intel[®] Pentium[®] processor-based PCs are designed not just to be manageable, but to actually help you manage. Between our hardware and software features like TopTOOLS and

OpenView, we offer a host of non-proprietary, DMI-standards-based management solutions.



You can upgrade multiple PCs remotely, monitor them throughout your entire network, collect asset data from any PC, troubleshoot problems before they even become problems and, in general, get more work done. Have a seat and please type: www.hp.com/go/vectracommercial Better products, better productivity.



What a concept! You want blistering Hot Graphics Performance? Hardware.



High-quality TV out display for presentations. gaming or recording



ou'll find ATI's 3D technology in hot new systems from IBM Sony NEC Gateway. Acet and many others.



The Best 3D Acceleration Ever

Now with improved performance

plus more 3D support in hardware than Matrox¹

> Upgradable Memory Upgrade to 4, 6 or 8MB for higher resolutions, greater color depth and more 3D detail

We mark more advanced feature into hardware than anyone else



Out exclusive PC7TV feature uses your bio-screen TV as a monitor for in-vourface gaming and riveting presentations.



Experience visibly superior full-screen full-motion MPEG video playback^{*}.

ATI 3D PRO TURBO PC2TV (4MB upgradable or BMB) ATI 3D XPRESSION+ PC2TV (2MB upgradable to 4MB)

Both products support the incredible ATI-TV add on card the best TV tuner and video capture card

ATI Multimedia Expansion Upgrade to powerful, low cost options such as the ATI-TV" tuner

Amazing Video Quality Experience video in true color, regardless of graphics mode - not available from Matrox²

It only makes sense - the more features you build into hardware, the more performance you get back out. So we engineered more advanced 3D, 2D and video right onto our graphics accelerator upgrade cards than Matrox or Diamond, to give you stunning speed and a dazzling display. Whether it's for business, games, multimedia or the web. See your dealer today. Get more information about ATI 3D upgrades at www.atitech.com. Or call us at 905 882-2600 (press 2 for faxback).

MICTO CENCET

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commin Citt 1003.013.340

FGGHEAD 1403-144-075





Circle 164 on reader service card.

CO INTE 1.600-255-0084

New HARDWARE: Sportster vs. SupraExpress · Bargain MMX Systems · HP OfficeJet Pro · Digital Cameras · Handheld Computers · MFDs · Snappy Video Snapshot · Pentium OverDrive

CyberMax PowerMax A53 200MMX

K6 Systems Take On MMX

Take a seat, Intel. PREVIEW Transformer and the perturbative right. But AMD's 2004Hiz MMX Pentium in Windows 95 application benchmarks. Windows NT performarks. Windows NT performarks. Windows NT performarks in thabby either. And K6 systems are priced to move. PC Computing's Labs got a sneak peek at CyberMax's PowerMax A53 200MMX, a first-generation K6 hox.

The 200MHz PowerMax outpaced Dell's 200MHz Pentium-based Dimension XPS M200s by about 5 percent in Windows 95 benchmarks. In fact, the CyberMax was slightly faster than Xi Computer's MX200 MTower SP and Micro X's MXP-5000-both of which feature Intel's new 430TX chip set (see "Next-Generation MMX on the Cheap," page 106). If this performance advantage seems paltry, who cares? The machine's \$2,199 price is hundreds less than many 200MHz MMX systems.

If an early look at an AMD reference system is any indicator, the K6's performance under Windows NT won't disappoint. The AMD trailed Dell's new 266MHz Klamath system by less than 10 percent in NT application benchmarks.

* Pentium Palooka The CPU itself plugs right into a Pentium socket, which lets system makers use existing motherboard designs for it. Like the Pentium Pro, the K6 is optimized for 32-bit code, but its whopping 64K of L1 cache means performance doesn't choke on mongrel 16bit and 32-bit Windows 95



Special K: Powered by AMD's 200MHz K6 CPU, CyberMax's PowerMax delivers faster performance than any 200MHz MMX Pentium–for hundreds less.



Speed Gains: The 200MHz PowerMax enjoys a slight performance advantage over a 200MHz MMX Pentium.

applications. It gives you the best of both worlds.

What's more, AMD licensed Intel's MMX technology for the chip. Because the K6's circuitry is different from the Pentium It's, however, AMD had to create its own version of the multimedia instructions. The two companies are currently embroiled in a lawsuit over the use of the MMX name.

Let their lawyers duke it out. The bigger bravl will take place in pricing. The PowerMax costs less than nost 200MHz MMX Pentiums, yet it gives you power to spare when running either Windows 95 or NT. And apps recompiled to take advantage of MMX will sing.

Don't let the machine's price raise your suspicions; the PowerMax is packed with features. It comes with 32MB of synchronous DRAM, a 4.2GB EIDE hard drive, a 16-speed CD-ROM drive, 4MB of WRAM on a Matrox Millennium video accelerator, a 33.6KDps fax modem, speakers, and a 12-inch monitor.

Wild Card The PowerMax makes an excellent bridge for that long migration to Windows NT. It can be depreciated quickly and swapped for more powerful iron when needed. But as long as you're running Windows 95, it offers

ALANA Excellent ANA Good ANA Acceptable A Poor & Unacceptable

FILEBOX

PowerMax A53 200MMX

Verdict: Faster than any 200MHz MMX Pentium—yet it costs hundreds less.

Pros: Loaded to the nines; outstanding price; stunning performance.

Cons: Running Windows NT? Systems based on the Pentium II are faster.

Features As Tested: 200MHz K6 CPU, 512K L2 cache, 32MB of SDRAM, 4.2GB EIDE hard drive, 16-speed CD-R0M drive, 16-bit audio with wavetable support and speakers, Matrox Millennium video accelerator with AMB of WRAM, 33.6Kbps fax modem, two USB ports, 17-inch monitor.

\$2,199 est. street price CyberMax Computer (800) 345-9065 Reader Service No. 627

tremendous bang for the buck. And for misers, even cheaper 166MHz and 233MHz versions will be available soon.

The more pressing question about the K6 is how it will stack up to Cyrix's M2 CPU, which is due our later this year. Cyrix has already proven that it can deliver more powerful CPUs than Intel at a lower price. Like the K6, the M2 will have an MMX instruction set and 64K of LI cache.

Even if the M2 can't outgun the K6 in raw performance, it will no doubt fan the fires of a raging price war. And this, of course, is good news for everyone. MARTY JEROME

Guide to the Ratings:

New. U.S. Robotics Sportster 56K Faxmodem vs. Diamond SupraExpress 56i

Two Ways to 56K

It seems like only yesterday V.34 was the belle of the ball. Then 33.6Kbps was all the rage. Meanwhile, your sluggish Internet connection remains a daily exercise in frustration. You need faster access, but ISDN is too expensive, and cable and ADSL modems are things of the future. What to do? Shift your analog modem ino the 56Kbps fast lane.

Both the U.S. Robotics Sportster 56K Faxmodem and the Diamond Multimedia SupraExpress 56i promise downstream data transfers of up to 56Kbps, with upstream rates close to 33.6Kbps.

So what's the caich? With no 56Kbps standard expected until early next year, these modems are based on incompatible, proprietary technologies. Depending on which technology your ISP supports, either modem could be the answer to your 56K access problems.

Us and Them We tested a shipping unit of the external Sportster 56K Faxmodem, which uses x2 technology supported by U.S. Robotics and Texas Instruments, by connecting to a special America Online x2 POP. We also looked at an early beta version of the internal SupraExpress 56i, which uses the K56flex technology supported by Rockwell Semiconductor Systems and Lucent Technologies. No K56flex POPs were available in time for us to test the SupraExpress 56i for comparison.

Because we tested the Sportster 56K Faxmodem using a corporate PBX, which typically hinders modem speed, our performance evaluation



Life in the Fast Lane: Squeeze more modem performance from standard analog phone lines. The internal Diamond Multimedia SupraExpress 56i (left) and the external U.S. Robotics Sportster 56K Faxmodem (right) hit download speeds of 56K/bps.

took a back seat to overall usability and price.

Setup and installation for both Windows 95 Plug and Play modems were simple. Connecting the Sportster to America Online, however, was a bit tricky because we first had to download and install special x2 software for the America Online 3.0 client. Also noisome: When we tested the Sportster, there were only five x2 POPs nationwide. (According to U.S. Robotics, 169 POPs are available now, with more on the way.) When we finally connected, the x2 service was snappy and responsive, especially when compared with a typical 28.8Kbps connection. Both x2 and K56flex modems dropped to slower 33.6Kbps or 28.8Kbps rates when they couldn't reach 56Kbps.

Both modems include a CD-ROM for installation and setup, as well as communications software. The more expensive Sportster also includes Connections 4.0, a CD-ROM packed with Internet software, online-service and ISP offerings, and games.

Universal Upgrades When making your 56Kbps decision, also consider which standard your ISP supports (many support both). Meanwhile, developers of both technologies have promised to offer an upgrade to the eventual 56K standard, although no prices have been set. And as for upgrading from your existing modem, U.S. Robotics' \$60 package is much better than Diamond Multimedia's, which ranges from \$20 to \$45, depending on your trade-in.

The most aggressive 56K upgrade strategy, however, may come from another player altogether. Hayes Microcomputer has announced plans to upgrade any modem from any company for only \$99 when its 56Kbps modems become available later this year. Bottom line? Stay uned. RICH SCHWERIN

FILEBOX

Sportster 56K

Verdict: Everything you'd expect in a Sportster at a blazing 56Kbps. But will the x2 standard catch on?

Pros: Dozens of software apps on a handy CD-ROM; lots of ISPs have pledged support for x2.

Cons: Not all America Online POPs support x2; performance varies with phone service.

Competition: The only other modern company working with the x2 chips set is Cardinal, which was recently purchased by Hayes, a K56flex company. Hayes says it will support both technologies. Also important: U.S. Robotics was recently acquired by 30cm, a strong K56flex proponent.

5219 est. street price; 560 for upgrade from any U.S. Robotics modem purchased after August 15, 1996 U.S. Robotics (800) 342-5877, (847) 676-7010 *Reader Service No.* 628

SupraExpress 56i

Verdict: An interesting preview of the K56flex standard, but still too early to rate. Pros: Inexpensive; many ISPs will support K56flex.

Cons: As of press time there were no K56flex services to dial into.

Competition: Many modem companies have licensed the K56flex chip set, including Hayes and Motorola, but the SupraExpress is the first K56flex unit available.

\$169 est. street price; \$20 to \$45 for upgrade, depending on original equipment Diamond Multimedia (800) 468-5846, (360) 604-1400 *Reader Service No. 629*

Guide to the Ratings:

ANARA Excellent Anara Good Ana Acceptable and Poor & Unacceptable

Until now.

this was the only way to deal with your outdated notebooks.

Introducing ExtremeDrive™—

the fastest and easiest way to bring new life to old notebooks.

In the past, you could either spend countless tech hours manually reinstalling and reconfiguring new internal hard drives on your storage-challenged notebooks. Or you could chalk one up to obsolescence. And toss them.

Now there's a better way. Install VisionTek's ExtremeDrive[™] with the patent-pending Drive Exchange[™] file transfer system. It's the first fast, easy and completely reliable way to extend the life of your notebook investment.

Saves about 7 hours per installation. Saves your notebooks.

Unlike other internal hard drive upgrades, ExtremeDrive requires no manual reinstallation of the operating system, drivers, or applications-saving about seven hours over traditional methods. In fact, the whole process takes only about an hour. Choose from 1.3GB and 2.1GB upgrades for notebooks from leading manufacturers like Toshiba and IBM, All backed by an industry-leading three-year warranty.



1. Plug in the Drive Exchan le transfer system



Copy all files onto the new capacity ExtremeDrivi



Start upgrading with VisionTek's ExtremeDrive.

Call your authorized reseller or 1-800-826-9855 for complete details.

more than memory









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New: Xi Computer MX200 MTower SP vs. Micro X MXP-5000

Next-Generation MMX on the Cheap

Let your colleagues tap away on pricey, feature-PREVIEW fat boxes. You have one goal in buying a Pentium system: bang for the buck. Two new offerings-from Micro X and Xi Computerdeliver performance on par with the fastest 200MHz MMX systems tested in PC Computing's Labs, Better still, the first digit in their price tags is a 2, not a 3.

Wrench It Up As you'd expect, both machines are tuned for maximum throughput with big 512K L2 caches. But what really gives them the edge over other MMX systems is Intel's new 430TX chip set.

The chip set's DRAM controller comes from the HX chip set, which supports very fast EDO timing. But unlike the HX, the 430TX supports 66MHz synchronous DRAM (SDRAM) for main memory. In other words, it works with all the fastest memory technologies on the market.

The chip set supports concurrent PCI, which renders smoother, sharper full-motion video. It also supports the new Ultra IDE interface, which provides transfer rates of 33MBps, compared with the 17MBps to 22MBps transfer rates typical of the standard ATA interface. This particularly benefits the Micro X MXP-5000. Already the fastest 200MHz MMX system to enter our Labs, the Micro X test unit came with a standard Adaptec Fast SCSI controller. Shipping units will feature an even faster Ultra IDE board.

The Xi MX200 MTower SP was nearly as fast as the Micro X MXP-5000-even with a simpler, cheaper IDE hard drive. Performance on both machines was virtually



High-Octane: New 200MHz systems from Xi (left) and Micro X (right) are among the fastest MMX Pentiums available. Their secret? Intel's 430TX PCI motherboard chip set, which supports SDRAM and Ultra IDE, All Pentium PCs should include the 430TX by year's end.

A Step Ahead Windows Application Performance		Close Call: Based on Intel's
Micro X MXP-5000	in Tade	new 430TX PCI chip set, these
Xi MX200 MTower SP	(H) There	systems keep pace with the
Dell Dimension XPS M200s	Particul	fastest 200MHz MMX system
NOTE MINISTONE 57 IS A TEST THAT RUNS 14 OF		we've ever teste

identical to Dell's superfast Dimension XPS M200s in business applications benchmarks.

Wrench It Down At \$2,599, the Xi system is the better value of the two. The price includes 32MB of SDRAM, a whopping 4.9GB hard drive, a 16-speed CD-ROM drive, STB's Velocity 3D video card with 4MB of EDO VRAM, a sound card and speakers, and a big 17inch monitor-not exactly the flinty features in your average budget box.

The résumé on the \$2,999 Micro X is just as impressive. The machine ships with 32MB of SDRAM, a 4.3GB hard drive, a 16-speed CD-ROM drive, a Matrox Millennium graphics card with 6MB of WRAM, a high-end audio card and speakers, and a generous 17-inch monitor. If you like the fast transfer rates and expandability of a SCSI interface, this machine is worth the extra \$400 over the Xi.

ve ever tested

The low prices and top performance of both machines make them ideal interim solutions to the Pentium II, But Xi and Micro X may not enjoy the price-performance edge for long. The AMD-K6 chip will exert considerable pressure (see "K6 Systems Take On MMX," page 103). Still, if you want tried-and-true Intel, these are the best values. MARTY JEROME

FILEBOX

MX200 MTower SP

to the total Verdict: A good interim solution before buying your

first Pentium II. Pros: Eve-popping price:

stunning performance. Cons: Faster competitors

loom

Features As Tested: 200MHz MMX Pentium, 512K 12 cache 32MB of SDRAM expandable to 128MB, 4,9GB FIDF hard drive, 16-speed CD-ROM drive, STB Velocity 3D video card with 4MB of EDO VRAM, Addonics audio card with 3-D surround sound and speakers, 17-inch ViewSonic monitor, two USB ports; two ISA slots, three PCI slots,

(800) 432-0486 Reader Service No. 630

MXP-5000

the second Verdict: For Intel Ioyalists, here's superb performance for the dollar

Pros: Fastest MMX performance you'll find: great price.

Const AMD PCs are in the passing lane.

Features As Tested: 200MHz MMX Pentium, 512K 12 cache 32MB of SDRAM expandable to 256MB, 4.3GB Fast SCSI hard drive, 16speed CD-ROM drive, Matrox Millennium graphics card with 6MB of WRAM, Ensonia AudioPCI card with speakers. U.S. Robotics 33.6 fax modem with speakerphone, 17-inch MAG DX700T monitor, two ISA slots, one PCI slot.

(800) 215-5214 Reader Service No. 621

Guide to the Ratings:

ALAA Excellent AAA Good AAA Acceptable A Poor A Unacceptable

IT CAN REMOVE TIRED OLD PROGRAMS EVEN BEFORE THEY'RE WRITTEN. (TOO BAD WE DON'T MAKE A VERSION FOR TV.)

0 11 4

New CleanSweep[®] 3 from Quarterdeck is so uniquely thorough, it can remove unwanted files and programs that won't even be on your PC for years. Eventually the inside of your computer resembles the inside of your closet, and you begin to wonder where all that valuable hard disk space went.

Because with Update-It," CleanSweep is the only removal utility that can regularly and automatically update itself over the Internet. So right off, it has the ability to dispose of unnecessary files generated by programs that haven't even been written yet.

Of course, it can surely tidy up those that have.



It already runs on Windows NT and

Windows 95, and it comes with an

application knowledge base of over 1,000 popular 16- and 32-bit programs. The same pro-



The law of personal computers: What goes in usually just stays there. grams that spew debris all over the place every time you install them, or even when you download a file.

Debris such as redundant DLLs, invalid registry entries, duplicate files and orphan files.

All in all, pretty messy stuff.



That's where CleanSweep's automated wizards come in.

With the determination of bloodhounds, they quickly locate the junk and either remove it automatically or, if you prefer, let you do it yourself. Furthermore, files you don't want deleted won't be. Our exclusive Safety Sweep" provides the best protection available against accidental file

deletion. It even automatically compresses and backs up the files it removes.

We may not know what tomorrow's software will look like, but we do know this – it won't be pretty.



CleanSweep 3 keeps your hard drive from getting stopped up.

So install CleanSweep, the only getting stopped up, removal utility that can safely and successfully get rid of unnecessary files for years and years to come.

Get your own copy by visiting your nearest store today. Or call us at (800) 683-6696, code 01115, or pay us a visit at www.quarterdeck.com.

Circle 354 on reader service card.

New! HARDWARE: Hewlett-Packard HP OfficeJet Pro 1150C

Color Around the Office



If you work with color on a daily basis, chances are you're spending

too much money. It's time to check out the latest multifunction device (MFD), Hewlett-Packard's OfficeJet Pro 1150C. This combination color printer, copier, and scanner is unlike any MFD we've seen—and it costs much less.

Based on its list of features, you'd think the OfficeJe Pro would be huge and expensive. Think again. It's no bigger than an average network printer, and it sets you back a mere \$999.

Manage It All Each component of the OfficeIet Pro 1150C is a solid product by its own merit. The ink-jet printer features 8-ppm, 600-dpi monochrome output and 4-ppm, 600-by-300-dpi color output. If you've used a Hewlett-Packard ink-iet printer before. you know what to expect: fiery speeds and good-looking output. The Office Jet Pro blazed through our performance tests, requiring just over five minutes to print a 3-page color presentation, and about two and a half minutes for a 10-page text-only document.

Presentation output was outstanding, although minor banding appeared in solid backgrounds. We found some dithering patterns in photographic output samples, but the overall color quality was impressive. Monochrome text output was laser-quality crisp, sharp, and clear.

The OfficeJet Pro is the only product in its price range that offers color copying. The copier produces pages at about the same rate as the printer, and its quality is sure to impress. You can easily adjust the color



Do Everything in Color: Get a 600-dpi color printer, a color copier, and a 300-dpi color scanner in one unit for under \$1,000 with HP's OfficeJet Pro 1150C. Also included: Adobe's PhotoDeluxe image editor and Caere's OmniPage LE OCR software.



built-in ink-jet printer produces impressive pages, despite its 600by-300-dpi color output. Text is sharp and photographic images are smooth.

Ink Jet Inside: The

Office.Jet Pro 1150C's

quality and copy intensity to ensure your output looks its best. Handling up to 50 copies at a time, automatically sizing documents to 8.5 by 11 inches, and scaling from 50 to 400 percent, the copier function leaves little to be desired.

The most impressive part of the Office[ef Prois the scanner, If you've never used a scanner, the idea might be intimidating. But scanning has never been casier than with the Office[et Pro. Neither a SCSI connection nor add-in cards are required. The same parallelport connection that controls the printer controls the scanner. The 300-dpi scanner is TWAIN-compliant so you can control it with most scanning software. However, HP's ScanSmart technology makes scanning one-button easy. You can scan and manipulate text and graphics from 32-bit non-TWAIN-compliant Windows 95 applications.

The OfficeJet Pro integrates with your applications and lets you access the Scan Picture and Acquire Text options directly from your File Menu. You also get Adobe's PhotoDeluxe image editor and Caere's OmniPage LE OCR software.

Where's the Fax? Lest you think the OfficeJet Pro does everything, it does have a few drawbacks. The main one is its lack of a fax option—a

FILEBOX

HP OfficeJet Pro 1150C

Verdict: A low-cost, highimpact color printer, copier, and scanner in one.

Pros: Scanning has never been so simple; outstanding color printing; great-looking text; inexpensive color copies.

Cons: Lacks a fax option, forcing you to rely on your existing fax modem.

Competition: Brother's \$800 MFC-4550 combines a laser printer, a copier, a scanner, and a fax—but it can't print color.

Features As Tested: 1.5MB of RAM, 600-dpi monochrome ink-jet printing, 600-by-300dpi color ink-jet printing, 300dpi TWAIN-compliant color scanner, 50 to 400 percent copy scaling.

\$999 est. street price Hewlett-Packard (800) 752-0900 (408) 725-8900

feature found on most competing multifunction devices. You're stuck with your PC's fax modem or a stand-alone fax machine. We'd also like to see higher-resolution output, which would greatly enhance the quality of photographic and highly detailed images.

Nevertheless, if your office prints, copies, or scans color documents, it's hard to beat the HP OfficeJer Pro 1150C. The color copier alone makes it worth the expense. And for those intimidated by scanning, HP makes it as easy as possible. At just \$999, your workgroup simply can't afford notto buy the OfficeJet Pro 1150C. **WIA & CARLSON**

PHOTOGRAPH BY ARNOLD TIO

Guide to the Ratings:

ANAR Excellent Anar Good An Acceptable A Poor Unacceptable



Great. Just when we'd perfected communications software for *this* planet.

We thought we had it all figured out. After all, our new Procomm Plus® for Windows 95 can connect you to virtually anyone, anywhere on this planet.

Especially now that we've integrated secure. fast remote control capabilities into the world's best-selling PC communications software. So you have quick, easy access to your files and applications wherever you are.

Our advanced fax features include OCR, annota-



tion and scanner support for graphics and signatures. While our 36 terminal emulations help you link up to a wide variety of corporate host systems. We've also made life simple with access to the Internet via mail, a newsreader and state-of-theart web browsing through the included Microsoft® Internet Explorer.

And we integrated it all with a Connection Directory that lets you fax, browse and transfer files without having to jump from one application to another or reconfigure your system settings every single time.



Basically, what we've created is the most advanced 32-bit multitasking communications package on earth. And for now, we'll just have to settle for that. To find out more call 1-800-282-0866, code 01717, visit your nearest store or come to www.quarterdeck.com.



Circle 355 on reader service card.

New! HARDWARE: Canon PowerShot 350 vs. Sony DSC-F1

Digital Shooters Get Smaller

Can good digital cameras come in small packages? You betthe latest models from Sony and Canon prove it. In addition to their compact size, Sony's DSC-F1 (\$849) and Canon's PowerShot 350 (\$699) share many features. Both snap IPEG images in 24hit color at 640 by 480 resolution. Both use a built-in 1.8-inch color LCD that doubles as a viewfinder and playback display. And both let you send pictures directly to a TV screen, or transfer them to a PC (cables are included). Beyond the basic features, however, these cameras are remarkably different.

Pint-size Power Sonv's DSC-F1 is as clever as it is small. Its sleek, rectangular frame houses 4MB of internal flash memory that lets you store 30, 58, or 108 pictures (all at VGA resolution, but at varying JPEG compression levels). It also has several image-capture settings, including Continuous mode for fullframe action sequences, and Multi Screen mode for capturing action shots such as a golf swing in a series of nine rapidly recorded thumbnails.

The Sony DSC-F1's lens and flash pivot freely from front to back. Normal focus is automatic and fixed. There's no zoom feature, but the Macro mode records as close as 3 inches. The camera has both video and PC output ports, and a built-in infrared transceiver (IrDA 1.1) that sends images to a PC, another camera, or a Sony DPP-M55 photo printer. (Sony is offering a free infrared PC adapter through June 30.) The company also bundles Arcsoft's PhotoStudio image editor.

All these great features take a lot of juice. The Sony's



Look Sharp: Sony's compact DSC-F1 (left) and Canon's pint-size PowerShot 350 (right) fit in the palm of your hand and take outstanding digital shots.





Image Conscious: Both the Sony DSC-F1 (left) and the Canon PowerShot 350 (right) produce 640-by-480dpi images, but the Sony's colors are richer, brighter, and more true-to-life. Contrast is better as well.

rechargeable lithium-ion battery lasts only 20 minutes in Record mode and slightly longer in Playback mode, yet it takes five hours to recharge. It won't take alkalines in a pinch, either. At least the AC adapter is tiny.

Quality Close-up Canon focuses on practicality with its PowerShot 350 (not to be confused with its older sibling, the 600, which has a higher resolution but no LCD or video-out port). The squarish PowerShot 350 keeps its fixed autofocus lens in place, but its adjustable Macro mode lets you get to within 1.2 inches of a subject. And the LCD panel swings upward to give you a better view when shooting. The PowerShot 350 stores fewer pictures than the Sonv-11, 24, or 47, depending on the level of compression-but it stores them on a tiny and easily removable 2MB Compact Flash card that fits into a standard PC Card-size adapter. You can buy additional cards from Canon and others, making it convenient to keep electronic albums.

The PowerShot 350 comes with useful software, including Ulead Systems' PhotoImpact

FILEBOX

PowerShot 350

Verdict: A solid, practical, and compact camera at a great

Pros: Removable memory card that works in a PC Card slot; tilting LCD; hooks into your television; decent battery life.

Cons: Modest internal storage; fixed lens.

\$699 est. street price Canon Computer Systems (800) 848-4123, (714) 438-3000 Reader Service No. 632

Sony DSC-F1

Verdict: An eye-catching little camera that takes a nice shot.

Pros: Rotating lens; lots of memory; hooks up to your television; infrared feature that makes transferring files to your PC simple.

Cons: Short battery life; high price.

5849 est. street price Sony Electronics (800) 326-9551, (408) 432-0190 Reader Service No. 633

image editor and several utilties—one even lets you create your own panoramas from multiple pictures. The Power-Shot 350's rechargeable nickelcadmium batteries last about 50 minutes in Record mode, and about 80 minutes in Playback mode. And you can replace them with three AA alkalines.

Whether you pick the sexy but short-lived Sony DSC-F1, or the plain and practical Canon PowerShot 350, you can't go wrong. Meanwhile, digital cameras are getting even more sophisticated as they get smaller. CHRIS O'MALLEY

Guide to the Ratings:

A Poor Unacceptable

BREAKTHROUGH! Fix-It[™] is the easiest way to find and fix Windows problems. Guaranteed!

The easiest way to find

fix Windows problems.

Quarterdeck Fix-It is the breakthrough you need to solve system problems, conflicts and errors in Windows 95. And unlike Cybernedia's First Aig. Fix1 has a knowledge base of over 1,000 applications and superior emergency recovery. Get the power to help end the frustration of Windows 95 problems today!

Windows 95 - what a mess!

Every new program and peripheral adds new potential problems to your Windows 95 system. Software conflicts and hardware configuration errors can crash your PC in seconds. Botched installations or sloppy uninstalls can cause havoc and slow your system down. Most diagnostic



utilities won't even catch many of these problems. They only analyze your hardware devices, or a limited number of applications.

But Fix-It can prevent software conflicts and configuration errors in hundreds of applications and hardware devices before they stop you!

Fix-It solves the problem

Fix-It starts with an automatic, comprehensive scan of your entire system – applications, the Windows 95 registry, configuration files, devices and drivers. It analyzes every thing you're using against its extensive application knowledge base of over 1,000 Windows 95, 3x and DOS applications. Then it fixes problems before they put you in a fix

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New! HARDWARE: Sharp Zaurus ZR-3500X vs. Psion Series 3c

Handy Pocket-size PCs

When you're choosing the perfect pocket computer, power isn't everything. You need a handheld computer that works the way you do; otherwise it'll share dusty shelf space with your aging copy of WordPerfect for DOS.

The Psion Series 3c and the Sharp Zaurus ZR-3500X are two new handheld PCs packed with more features than ever thought possible in units this small. While both operate on proprietary, non–Windows CE operating systems, each offers Internet and e-mail access, as well as other new features.

World Series New to Peior's line of handhelds, the Series 3c brings a bright backlit series no an already welldesigned miniature computer. The Series 3c's software includes a word processor, a spreadsheet, a scheduler, a note taker (which uses the QWERTY keyboard), a database, a calculator, a file manager, a programming language, and a paging option.

"While Windows CE-based handheld computers ship with light versions of Microsoft Word and Excel, Psion's applications are Word- and Excel-compatible—if you're willing to spear word some extra money. Psion's \$99 PsiWin lets you share data with your PC via a serial connection, as well as smoothly integrate your schedule with Lotus Organizer and Microsoft Schedule-7.

Eager to send and receive Internet e-mail when you're on the run? Use the Psion Series 3c's \$50 PsiMail Internet option. With PsiMail you connect to the Internet through your favorite ISP or the included CompuServe Network Services. You can



Two for the Road: Handheld computers from Psion (left) and Sharp (right) are loaded with powerful apps, including a Microsoft Word-compatible word processor and an Excel-compatible spreadsheet.



Odd Slots: Unlike other handheld computers, the Psion Series 3c is burdened with proprietary card slots that accommodate Psion cards only.

send and receive e-mail (including file attachments) and browse the Web using your own external modem.

Razor-Sharp Sharp's Zaurus ZR-3500X is similar to the Psion Series 3c, but there's one significant difference: Everything you need to synchronize data, send and receive e-mail, and connect to the Internet is included with the Zaurus ZR-3500X. The backlit Zaurus ships with an integrated 14.4Kbps fax modem. You can use your existing Internet account to send and receive e-mail using POP3/SMTP protocols. And as with the Psion, CompuServe software is included.

Want to keep your handheld

data synchronized with your desktop? The Zaurus comes bundled with a PC cable and Zaurus Application Partner for Windows 95 software, which lets you share data with Zaurus's Word- and Excel-compatible applications. You also get a scheduler that's compatible with ACT 2.x, Schedule+ 7. Lotus Organizer, and Gold-Mine 95. And the database feature, which uses the unit's QWERTY keyboard or the included stylus, provides an outliner, a built-in filing system, and a note-taker.

The Psion Series 3 and the Sharp Zaurus are similar in weight and size. The Psion weighs 9.7 ounces and measures 6.5-by-3.35-by-0.87 inches.

FILEBOX

Zaurus ZR-3500X

Verdict: Feature-packed,

pocket-size portable----too bad it doesn't run Windows CE.

Pros: Includes fax modem, backlit display, app synchronization, and e-mail.

Cons: Lacks tutorial; internal modem is only 14.4Kbps.

5499 est. street price Sharp Electronics Corp. (800) 237-4277 Reader Service No. 634

Psion Series 3c

Verdict: Handheld power saddled with proprietary everything.

Pros: Powerful software; backlit screen; paging option.

Cons: Additional cost for Internet compatibility and application synchronization.

\$470 est, street price Psion (800) 997-7466, (508) 371-0310 Reader Service No. 635

The Zaurus packs a bit more heft at 11.8 ounces for its 6.3by-3.5-by-1-inch frame. Each system could use an introductory tutorial to step you through all the features, like those found on the U.S. Robotics PalmPilot 1000 or the Apple Newton MessagePad 2000.

If you need a full-featured destop-like solution for your handheld, the Psion Series 3c and the Sharp Zaurus ZR-3500X provide all you need and then some. But if you plan to use your handheld computer for basic scheduling and to-do lists, you're better off with the smaller, lower-pried, and easier-to-use PalmPilot 1000. WTLM K.CREJSON

Guide to the Ratings:

ARANA Excellent Arana Good ARA Acceptable A Poor & Unacceptable

Get More for NT4.



Millennium

"With its breaknock performance, 3D acceleration, and innovative use of Window RAM, Millennium brings workstation class graphics to the desktop at a price you can afford." PC Computing*

Blast through all your demanding NT 4.0 applications with 4 MB of Matrox Millennium power. Using state-of-the-art Window RAM memory, Millennium is the perfect solution for your demanding NT 4.0 applications.

Only Millennium's powerful dual-ported WRAM memory and 64-bit MGA chip deliver mind blowing speed for all your 2D, 3D and video

applications. With its unique support for up to four monitors, the ability to upprade to 8 MB and its 220 MHz DAC you'll get the ultimate in displays with resolutions up to 2020 x 2400 in true 24-bit color. With support for the latest 3D and video technology including HEIDI, AutoCAD 13, Open GL, Direct Draw, and ActiveMovie, you'll be ready to tackle any NT 40 application.

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I Enter

RRENCY

High resolution workflow



Desktop publishing



Computer hased training



3D CAD







Circle 153 on reader service card.

Secret Small-Office Weapons

In a small office, it's all about looking good-never mind your tight budget. Lousy print jobs and busy fax signals tell the world you're small potatoes. Show them you're heavy starch with a multifunction device (MFD) that combines a printer, a photocopier, a fax machine, and a scanner in a single unit.

Don't let past experiences change your opinion. Firstgeneration MFDs were built around an ink-jet printer. which diminished output quality. But two of the latest MFDs, the Brother MFC-4550 and the Xerox Document WorkCentre Pro 535, use a laser printer as well as sophisticated faxing and copying tricks such as broadcast faxing and photocopying enlargement.

Performing Arts While they both use a laser-printer engine, the two are significantly different. The Brother MFC-4550's engine produces 6 ppm at 600 dpi, while the Xerox Document Work-Centre offers only 4 ppm at 300 dpi. In our tests, the Brother not only printed pages quicker, but also produced better-looking images.

When printing a simple single-page memo, the Brother was over 80 percent faster than the Xerox. For a 3-page graphics presentation it was over 300 percent faster. The difference wasn't as significant in photographic output tests, in which the Brother outperformed the Xerox by a mere 43 percent.

With the higher speeds, the Brother also gives you higher resolutions and cleaner documents. Its plain text was much more crisp and its letters more clearly defined than the Xerox's. And graphics images from the Brother were



How to Get Ahead: Get all the tools of big business at a low price. The Brother MFC-4550 (left) and the Xerox Document WorkCentre Pro 535 (right) combine a laser printer, a copier, a fax, and a scanner in one unit.



Smooth Moves: The 600-dpi Brother produced smooth. photorealistic pages.



Jagged Edge: Xerox's 300-dpi laser produced a rougher image at a far slower rate.

smoother and contained fewer noticeable dot patterns.

Another complaint with the Xerox is its paper handling. We experienced many jams that destroyed our pages when we tried to clear them.

Straight Fax When it comes to complex tasks like scanning and faxing documents, both the Brother and the Xerox are surprisingly simple. If you want quick access to a stored phone book, go with the Xerox. Its easy button pad finds anyone by name or by fax number. The Xerox's

onscreen display offers automatic resolution settings, a one-button copy feature, and straightforward faxing right from your PC.

Making copies? Nearly a quarter of the Brother's keypad is dedicated to tasks like enlarging and reducing image size. It also has a shrewd help system that's integrated with the unit's LCD.

For heavy-duty faxing, both MFDs store and automatically forward faxes, as well as handle automatic fax-back and broadcast faxing. Try that with an

FILEBOX

MEC-4550 10000

Verdict: The ultimate smalloffice bundle----a printer. copier, fax, and scanner for just \$800.

Pros: Great-looking 600-dpi output: high print speeds: reliable naner handling: sophisticated copying features.

Cons: If you need just one or two of its hundled devices, the price is steen

\$800 est, street price (800) 827-6843 (908) 356-8880

Document WorkCentre Pro 535

1000 Verdict: Plenty of print and fax

nower-but it will cost you.

Pros: Good software bundle: laser-quality printing

Cons: Low print speeds: 300-doi outout quality: prone to paper jams.

Reader Service No. 617

inexpensive fax machine.

Both machines are well suited to home and small offices, but the Brother has the decided edge. While we have few overriding complaints about the Xerox Document WorkCentre Pro, the Brother MFC-4550 gives you a faster print engine and higher resolutions for \$300 less. At \$800, the Brother costs more than an average personal printer. But add its fax and copier features, and the Brother has a decisive advantage, KYLA K, CARLSON AND KEDREN DILLARD

Guide to the Ratings:

ARANA Excellent ARAN Good ARA Acceptable AR Poor & Unacceptable

Speed Versatility Upgradeabil



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High resolution workflow



3D web browsing



Video conferencin



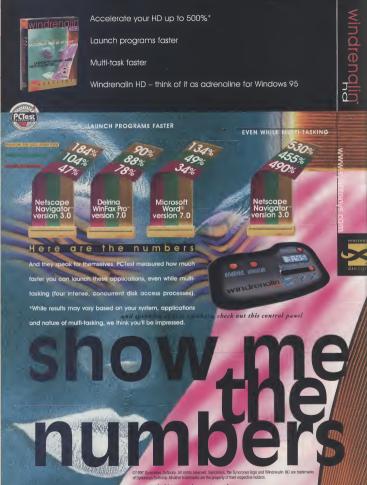
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Circle 206 on reader service card.

New. Play Snappy Video Snapshot 2.0

Video-to-PC Snapshots

Get the most mileage from your home and office videos with Play's \$199 Snappy Video Snapshot 2.0. It turns video frames into still-image graphics files that you can edit, crop, and drop into any application.

The enhancements to this new version of Snappy aren't extensive, but Play has added some useful features. (See "Video Snapshots in a Flash," October 1996, page 88.) Our favorite is the ability to choose resolutions, from 64 by 48 pixels to 1,500 by 1,125 pixels.

Snappy keeps its same small size, which is just a little bigger than a deck of cards. Plug the unit into your computer's parallel port, connect your external video source, and snap away with the easy-to-use included software.



Freeze-frame: Play's Snappy Video Snapshot 2.0 turns video frames into digital snapshots.

Want to get that perfect still photo into your PC? Set up your camcorder on a tripod and film an image. Then put Snappy to work. The package includes complete versions of Adobe Systems PhotoDeluxe, Gryphon Morph, and Kai's Power Goo SE.

Snappy 2.0 is easy to install

FILEBOX

Snappy Video Snapshot 2.0

Verdict: Turn video into greatlooking still images on your PC.

Pros: Compact size: easy to install: great software bundle.

Cons: Doesn't capture fullmotion video, just still images.

System Requirements: Windows 3.xor later, 8MB of RAM, 8MB of hard disk space.

(800) 306-7529, (916) 851-0800 Reader Service No. 628

and use. If you need a quick way to turn your favorite videos into digital snapshots, Snappy Video Snapshot 2.0 is for you, KYLA K. CARLSON

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Office 95 Expert Advice	Yes	No
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When you install new software or peripherals, PC Medic makes sure you're configured properly. And it automatically finds and resolves conflicts with your existing system to keep things running smoothly. Plus PC Medic provides faster, more complete solutions than any other utility. The automated expert assistant, Second Opinion," locates and diagnoses



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New! HARDWARE: Intel Pentium OverDrive Processor

Power Up Your Pentium with MMX

Funny how top-of-the-line hardware becomes a doorstop in just months. But with Intel's Pentium OverDrive Processor vou can breathe new life into your aging PC.

The processor pops into the CPU socket on your system's motherboard and significantly increases your system's clock speeds. The upgrade also includes all the latest MMX instruction sets. You get a performance jump-start for old Windows favorites as well as for multimedia tasks. And digital video is smoother, as are complex graphics.

Models are available for 75MHz, 90MHz, and 100MHz machines, ranging in price from \$399 to \$499. Each increases your original processor's speed by 60MHz or more. In the



Shot in the Arm: Upgrade to MMX the affordable way with Intel's Pentium OverDrive

90MHz Pentium we tested, the upgrade raised overall Windows performance by 33 percent-a nice boost.

Installing the new chip can be tricky: It often requires resetting jumpers on the motherboard. Luckily the included documentation provides detailed guidelines that are easy to follow.

While the processor improves a system's performance, we weren't overly impressed with a few of the MMX-specific titles, which gobble major system resources. The optimized applications work fine with the chip upgrade, but they don't run as smoothly as they do on a native MMX machine.

With system prices constantly plunging, is the \$399 quick fix worth the expense? If vou can't afford a full system upgrade, absolutely. The faster processor is certainly no magic bullet, but you'll easily gain speed. JACK LYON

FILEBOX

Pentium OverDrive Processor to to to

Verdict: An affordable way to add MMX to your aging system.

Pros: Adds MMX to older Pentiums: significantly improves system performance: cheaper than buying a new system.

Cons: MMX-specific titles run better on a native MMX system: requires resetting some motherhoard jumpers. making it tricky to install.

\$399 for upgrade from 75MHz 100MHz models est street Intel Corp (800) 538-3373 Reader Service No. 639



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- 33.6 U.S. Robotics Telephony Modern
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Common features listed above plus: 32MB SOBAM Memory

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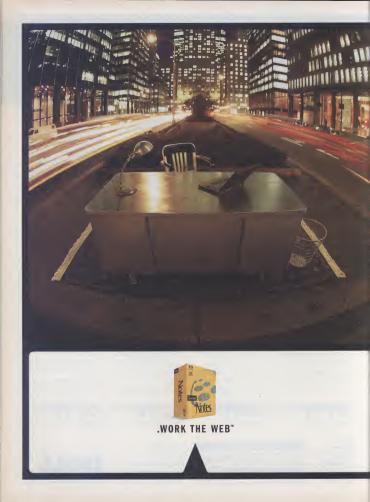
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New. Software: Adobe Illustrator 7.0 · Connected Online Services · Norton Utilities 2.0 for Windows NT · Search'97 vs. AltaVista Search · Stac ReachOut vs. Microcom Carbon Copy

Microsoft Visual Basic 5.0

A Better Way to Build Apps

What's the real story behind Microsoft's newly released Visual Basic version 5.0 (VB5)? It doesn't concern its spectacular performance improvements. It has nothing to do with the "tips" that help you write programs, telling you which options are valid at any given point-and offering to type them in for you. Nor does it involve VB5's newfound ability to create your own ActiveX controls, or liberation (finally!) from that old VBRUNXXX.DLL runtime millstone. It goes way beyond VB5's versatile new Setup Wizard, solid Net and Winsock controls right in the box, and extensibility into every nook and cranny of users' machines via a solid ActiveX-Auto implementation.

Nope: The real story behind VB5 revolves around its position at the vanguard of Microsoft's new strategy for programming languages. Sometime before the end of the millennium we're going to see enormous improvements in the way Microsoft programming products work, and work together. VB5 represents the first steps in that direction.

Programmer's Perks It's easy to see where several of VB5's giant strides originated. The programming window was stolen wholesale from the Office/Visual Basic for Applications team. It's a remarkable achievement.

Type in ListBox1, for example, and VB5 automatically provides you with a complete list of Properties and Methods valid for that specific ListBox control. Type msgbox(, and VB5 not only prompts you



Custom Code: Programmers will love Visual Basic 5.0's new programming tools. Among the enhancements are dockable windows and the ability to open multiple projects. But VB veterans will need time to get used to the new interface.



A. Set your breakpoints and bookmarks. B. Type a letter and VB5 presents you with all the valid choices

C. View anything from forms to ActiveX in the enhanced Project Explorer window.

Ready, Set, Run: By default, VB5 compiles programs, turning them into 32-bit EXE files. FILEBOX

Visual Basic 5.0

Verdict: The premier 32-bit visual app builder.,

Pros: The best programming environment; creates ActiveX controls; SQL Server 6.5 support: Wizards galore.

Cons: Doesn't create 16-bit applications.

Competition: Borland Delphi and PowerSoft PowerBuilder already made the switch to allcompiled code some time ago. Delphi 2.0's object-oriented Pascal is also powerful. PowerBuilder 5.0 supports more platforms.

5499 for Professional Edition, 51,199 for Enterprise Edition, 599 for Learning Edition, est. street prices Microsoft Corp. (800) 426-9400 *Reader Service No.* 659

Visual C++ group!

With so much going for it, there must be drawbacks to VB5. There are, VB5 takes a huge amount of hard disk space: Plan on 115MB for a "typical" installation (Professional Edition) to 345MB if you want all the graphics, video, and help goodies (Enterprise Edition). You also want at least 16MB of memory in Windows 95, and twice that for NT. And no matter how hard you try. you won't be able to create a program with VB5 that runs under Windows 3.x.

Given those restrictions, VB5 represents the greatest improvement in Visual Basic. Programmers will find the new tools breathtaking. Users will get whiplash. Who could ask for more? WOODY LEONHARD

with the sequence of parameters, it even suggests meenonic constants (like vbOKCancel), which you can select by typing a few letters and hitting the Tab key. Add the new multipleproject capabilities, "hover" values as ToolTips, and dozens of great features, and you'll be learning new tricks for months.

Less you be tempted to think that the main benefit of "suiteifying" falls with the programmer, take a look at how VB3's designers brought compiled code to the table. Until VB5 came along, all Visual Basic programs were interpreted they required a runtime file like VBRUN400.DL1 before the program would work. Since interpreted programs are almost always slower than their compiled siblings, Visual Basic programs took a speed hit and a space hit from the get-go.

Basic Building Blocks VB5, though, gives you the option of distributing an interpreted program or creating a genuine, compiled EXE program. Moreover, the compiled code can be optimized for speed or for space. In our informal tests, we found programs compiled for size were about 50 percent larger and at least 20 percent faster than the interpreted version. VB programs compiled for speed grew almost twice as large as the interpreted programs, but ran in half the time.

How did VB5 finally get a compile option? The Visual Basic team swiped the new optimizing compiler backend from Microsoft's own

Guide to the Ratings: Arthread Excellent Arthread Good Arthread Acceptable

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New! SOFTWARE: Adobe Illustrator 7.0

Simply Stunning Illustrations



Forget flashy new features. Graphics professionals need PREVIEW illustration pro-

grams that save time and sanity, and graphics software companies are finally catching on, First, CorelDraw 7 simplified and honed its existing features. Now Adobe Illustrator 7.0 follows a similar tack, with a cross-platform face-lift. The end result is a drawing powerhouse that looks a lot cleaner. runs a bit faster, and delivers all the tools you need to create anything you can imagine.

Mac Attack Though Illustrator 4.1 for Windows was a solid graphics performer, it still lagged behind its full-featured Mac counterpart. Illustrator 7.0 evens the score, bringing Windows 95 and NT 4.0 users every feature that put Adobe at the head of the Mac pack. That includes various palettes and filters, as well as color-separation and bitmap-conversion features. And while syncing the feature sets, Adobe has also wisely fine-tuned the tools.

There are some new features in Illustrator 7.0, but the focus is clearly on making Illustrator play nice with Photoshop 4.0 and PageMaker 6.5. Illustrator 7.0 sports cleaner menus, a simpler toolbox, and revised keyboard shortcuts that mimic those in the other Adobe programs. Illustrator now has the same easy tabbed-palette interface as that of Photoshop and PageMaker, with one extra touch: You can dock Illustrator's palettes to each other, letting you quickly move or minimize them as a group.

Granted, interapplication coordination and clean working environments don't push the needle very far on the excitement meter. But for most



Big Draw: Adobe Illustrator 7.0 is the professional drawing program Windows users have been waiting for. It integrates flawlessly with other versions of Illustrator and with other Adobe Windows programs,

Click Here: Adobe Illustrator 7.0's Attributes palette lets you embed Web links in graphics for image maps and hotlinks. A. Illustrator's simpler toolbox puts tools at your fingertips B. Easy RGB color support lets

you prepare onscreen illustrations for video or the World Wide Web

C. Illustrator, Photoshop, and PageMaker share a common tabbed-palette interface to control attributes



people, these changes will do more for productivity than an upgrade full of new tools.

Illustrator 7.0 also makes it easier to dive into Web publishing. The previous version let you move your drawings from paper to the Web, but Illustrator 7.0 adds two important features: RGB color support and URL embedding. The RGB color picker lets you choose, identify, and manage RGB colors as easily as you would CMYK colors-ideal for preparing onscreen illustrations for Web sites or video presentations. With the URLembedding feature, you create image maps and hotlinks by

assigning Web addresses to objects within an illustration.

True Colors Illustrator 7.0 has a new color-management system to translate colors from the screen to various output devices. In the Windows edition, Illustrator uses Kodak's Digital Science CMS, which includes profiles for a number of common output devices. Screen redraw is faster, too, thanks to a new caching system that hustles up large images by displaying only the minimum data needed for your screen's resolution.

Still hungry for some new tricks? A new reshape tool lets you change the contours of an

Acceptable

FILEBOX

Adobe Illustrator 7.0 A A A A A

Verdict: Simply the best professional drawing program on the planet. Period.

Pros: Elexible tools-exceptional integration with other Adobe products in either Windows or Mac format.

Cons: Its powerful features and large quiver of tools are overkill for casual artistsparticularly at this price.

Competition: CorelDraw 7 and FreeHand Granhics Studio are very good drawing programs, with bitmap editing and 3-D features. But for vector-based illustrations. Illustrator is now the one to beat in the Windows arena too. for both speed and flexibility.

System Requirements: Windows 95 or Windows NT 4.0. 486 CPU, 16MB of RAM, 25MB of hard disk space, CD-ROM drive,

\$595 list price, \$249 for upgrade from any graphics program (800) 649-3875, (408) 536-6000 Reader Service No. 651

illustration by changing the shape of paths, without dealing with individual anchor points. On the text side, the addition of Chinese, Japanese, and Korean characters to Illustrator's core code vields an interesting perk for us English-speaking folk: You can now easily create vertical text strings and paths.

Those things are fun. Still, it's primarily Illustrator 7.0's adoption of existing Mac features, coupled with its better manners-including the ability to read all older Illustrator files from Macs or PCs-that make this a great upgrade and a truly professional graphics program. CHRIS O'MALLEY

A Poor & Unacceptable

Guide to the Ratings:

AAAAA Excellent

JUNE 1997



Some Office Managers Would Order A New File Cabinet. All You Really Need Is A Great Office Manager.



Meet your new Office Information Manager:[™] The Paperless Office[™] from Computhink.[®]

Now you can have the flexibility, power, and speed of today's high-end corporate document management systems, with the convenience and ease of your own Windows application.

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If you need a little more convincing, call (800) 345-8260 and we'll send you a working demo CD-ROM. The disc is free; shipping & handling is \$6.50.

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New! SOFTWARE: Connected Online Services

Bulletproof Online Backups



3 Back up your hard drive every week? Yeah right. None PREVIEW of us do, yet we all

worry about the consequences. Let Connected Online Services (COS) do your backups for vou-via the Internet, Not only does it take care of this dreary chore, but it also scans for viruses and automatically updates several of your applications at the same time.

For \$14.95 a month you can back up 50MB of new data. If 50MB sounds like chicken feed, bear in mind that COS saves files incrementally. That means when you add two more people to your trusty contact database, only those entries are backed up-equaling less than 1K. And you get 50 more megabytes every month, which is plenty unless you're dealing with graphics or multimedia files.

Setup was easy after a few minutes of orientation. although it's not foolproofit's easy to overlook files you want to back up. With an interface that looks a lot like Windows 95's Explorer, you simply choose the files you want to save, or have COS select files based on the file types you want to back up.

This Just In While the beta we looked at lacked complete virus checking, the shipping version of COS will offer this feature, scanning any data on your drive and files you download. If you already have a virus scanner vou like, just disable COS's. Connected also has deals with several software companies, including Microsoft and Netscape, to automatically provide you with driver and version updates of various applications whenever they're available.

Don't want to tie up the

Martin Startin

Safe and Sound: Never lose vour data again-back it up online with Connected Online Services For \$14.95 a month COS will back up 50MB of files via the Internet, and you'll enjoy remote access to files, as well as virus scanning.

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work vet, vou can't get it at

home. COS does remote access. not remote control, so you

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work machine. Plus you need

phone lines? Any of the services two different accounts for COS offers can be scheduled remote access. for after hours. And you can While features like file shareither dial one of Connected's ing and application updates

local access numbers for a direct are nice, the obvious strength connection or link up over the of COS is its online backup. Net if you have TCP/IP-based You can easily restore any data either by downloading it. or, if your whole machine Let's Share If you forget goes belly-up, simply orderthat all-important file at work, ing a CD-ROM of all your COS lets you remotely access backed-up files for \$24.95 plus and download any of your backed-up files, all of which are encrypted for your protection. The downside? If your

shipping and handling. COS also keeps a copy of each incremental file, so if you need a previous version of a file it's easy to retrieve-another nice piece of insurance.

While the COS services are a good deal, they may not be ideal if you have more than one machine. Each computer you FILEBOX

Connected Online Services to and

Verdict: Never sweat a bum drive or forgotten file again. For \$15 a month you're covered.

Pros: Great price: easy online backup: saves each incremental file-works with either a direct dial-up or via the Internet

Cons: One account works on only one machine, so remote access requires a second account: no remote control since files aren't constantly backed up.

Competition: XactLabs Atrieva and McAfee Associates Personal Vault offer similar services but can't match COS's feature set and low price.

System Requirements: Windows 3.1, 386 CPU, 4MB of RAM, 2MB of hard disk space, analog modem or TCP/IP-based Internet connection

\$14.95 per month for 50MB of new data (800) 353-3078, (415) 237-0180 Reader Service No. 652

back up data from is considered a separate account-an extra \$14.95 a month. That's an unnecessary expense if you want simply to back up data on both your desktop machine and notebook. Regardless, COS offers the most megabytes backed up for your buck. Unlike other online systems, such as XactLabs Atrieva and McAfee Associates Personal Vault (see "Back It Up Over the Net," March, page 97), you can back up your data as often as you like with no additional charges. On the whole, Connected Online Services offers more features at a lower price. If you still don't back up your data, you've now officially run out of excuses. JACK LYON

Guide to the Ratings:

Acceptable A Poor A Unacceptable ANA Excellent

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Echos Pro Notebook Standard Features:

Pentium[®] processor, PCI Bus, 256K L2 cache, 16MB RAM expandable to 128MB, 28.8K internal modem, 2 PC Card slots with PC Card Bus and Zoomed Video, Win 95 keyboard, Li-Ion battery, Multi-function bay: 8X CD-ROM (std.), modular FDD (std.) and second HDD (opt.)

Echos Pro 150S 150MHz Pentium® processor, 12.1" SVGA TFT display, 2.1GB Removable HDD



Echos Pro 133S 133MHz Pentium[®] processor, 12.1" SVGA TFT display, 2.1GB Removable HDD



Echos Pro 133D 133MHz Pentum[®] processor, 12.1" SVGA DSTN display, 1.3GB Removable HDD





The optional Echos⁷⁴ Pro Docking System offers full port replication, Multi-function bay, drive bay, 2 PCI Card slots, plus much more. It's the perfect solution for desktop replacement.



Echos Notebook Standard Features:

Pentium® processor, PCI Bus, 256K L2 cache, 1.3GB removable HDD, Multi-function bay: 6X CD-ROM (std.), modular FDD (std.) and second battery (opt.)

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Echos P100E 100MHz Pentium⁶ processor, 8MB RAM expandable to 40MB, 10.4" SVGA TFT display

\$1,599

Echos P100C 100MHz Pentium^{*} processor, 8MB RAM expandable to 40MB, 11.3" SVGA DSTN display





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New! Software: Symantec Norton Utilities 2.0 for Windows NT

Make the Most of NT

It's par for the course: If you're upgrading your operating system, you're bound to have problems. But every time you run into one of those problems, Symantec's Norton Utilities is probably there to help you recover-unless you're using Windows NT. Until now, you were limited to NT's anemic bulkin toolkit.

With the growing popularity of Microsoft's Windows NT operating system, Symantec has finally released an NT version of its flagship utility package that fills in the gaps. The bottom line II you're upgrading to Windows NT, you'll save yourself hours of configuration blues with Norton Utilities 2.0 for Windows NT.

Eyes Wide Open The pivotal component in Symantec's utility suite is Norton System Doctor, which sits in the background monitoring your system. System Doctor uses sensors to gauge your system's performance. When specific sensors fall below a certain level, System Doctor loads the appropriate utility to bring your system back up to speed. It also works well enough as a rudimentary program scheduler, though support for thirdparty applications would have been a nice touch

The Norton System Information tool goes way beyond NT's Microsoft System Diagnostics utility by showing you nearly every aspect of your computer, from the network configuration to multimedia support to memory usage. Although Norton System Information isn't an ideal diagnostics program since it shows much but automatically fixes little, it's easily better than anything else available for NT.

One of the downsides to





A With Sprace Information you can be an optimized and approximately and approximately a finite system before. C. Use Speed Disk to keep your hard one dragend the system before and disk errors. **Tune Up:** The new LiveUpdate program automatically retrieves and installs the latest updates of your Symantice applications.

using the native NT file system (NTFS) in Windows NT is the lack of tools for maintaining your volumes of precious data. Norton Utilities includes two disk tools: Norton Speed Disk, a disk defragmenter, and Norton Disk Doctor, a disk integrity checker that detects and correct slike errors.

Disk Savior Since the NT version of Norton Speed Disk supports both FAT and NTFS volumes, you can defrag your entire system from one operating system. By using a multithreading architecture, Speed Disk runs continuously in the background without giving you the performance degradation usually associated with diskdefragging utilities.

Norton Disk Doctor, on the other hand, scans your NIFS volumes and corrects errors that were previously unfixable without sitting through a tedious CHKOSK process. Disk Doctor, too, supports both FAT and NIFS file systems, which means it can fix anything from lost clusters to invalid indexes and security descriptors.

Another problem inherent in NT is the lack of a proper undelete tool. Windows NT 4.0 alleviates this somewhat by including the Recycle Bin. Unfortunately, the Recycle Bin tracks only files that are

FILEBOX

Norton Utilities 2.0 For Windows NT

Verdict: Everything you need to keep your NT machine running in top form.

Pros: Prevents and troubleshoots common disk problems; fine-tunes system performance.

Cons: Not as many features as the Windows 95 version; Norton Speed Disk requires a significant amount of free disk space to fully defrag a disk.

Competition: Executive Softwar's Diskeeper provides more versatile disk-defragging options, but so far there's no other all-inclusive utility pack for Windows NT that handles both hard drives and system beefformance monitoring.

System Requirements: Windows NT 4.0, 486 CPU, 16MB of RAM, 25MB of hard disk space, CD-ROM drive.

599 est. street price Symantec Corp. (800) 441-7234, (541) 334-8054 Reader Service No. 653

deleted from the NT shell. Overwritten files and files deleted from a command prompt are sadly gone forever. This is where Norton's Protected Recycle Bin comes in. This enhanced version of the Recycle Bin keeps track of and recovers all deleted files, not just those deleted from Explorer.

At \$99, Norton Utilities 2.0. for Windows NT is a bargain. It's also one of those rare programs that tries to do everything and actually pulls it off. If you're running NT or are thinking of moving to it, get Norton Utilities 2.0 for NT. It will make your life that much casier. JONATHAN J. CHAU

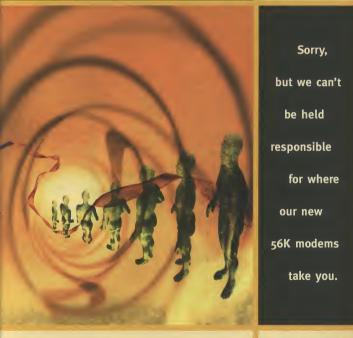
Guide to the Ratings:

Acceptable Excellent

A Poor & Unacceptable

SUPRA EXPRESS 56 MODEM FAMILY. Now you can download all the most compelling Internet content up to twice as fast over ordinary phone lines. With Diamond Multimedia's affordable new SupraExpress 56 Kbps-capable modems—which incorporate Rockwell's kg6 Flex technology—you'll do a lot more exploring and a lot less waiting. And they've been built from the ground-up for better performance and easier upgradeability. So visit us on the Web for all the facts. And, while you're there, check out our introductory offers. Then prepare yourself. Because there's no telling where our 56 Kbps modems will take you.





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New! Soft WARE: Search'97 Personal vs. AltaVista Search My Computer Private eXtension

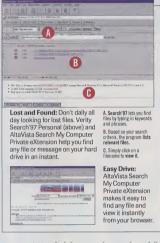
Find Any File Fast

When you've forgotten the name of a misplaced file, finding it again makes locating jimmy Hoffa seem easy. But the same search engines that help you wind your way through the Web can help you find any personal document in a flash. Verity Search'97 Personal and Alta/Vista Search My Computer Private eXtension index all your documents so you can find them again using simple search phrases with your Web browser.

⁶ Both work within Netscape Navigator or Microsoft Internet Explorer to search for files and e-mail. And both support several file types including Microsoft Word and Excel, HTML, Corel WordPerfect, and Microsoft Exchange. Just as when you search the Web, simply type in keywords or phrases and up pops a list of relevant documents. Choose the one you want by clicking on it.

Show Me Of the two, Search'97 offers more thorough options. Besides searching for words and sets of words in close proximity, Search'97 looks for data in e-mail fields (To, From, Subject, and so on) and "zones," like any data tagged inside HTML documents; for example, <TITLE> and <H1>. You can perform concept searches to locate documents that meet all or only one of your search criteria, assign weights to queries, and specify minimum scores that documents must meet before the program lists them.

Private eXtension offers sound search functions of its own that look for specific words or phrases and start and end dates. You can also use wildcards to cover variations on words—for example, you



can enter sing* to look for sing, singer, and singing.

Search'97 displays your documents in its own window via a viewer utility. Within the documents in highlights each occurrence of your search phrases and les you navigate from highlight to highlight. Private eXtension does much the same (without the highlights) and conveniently launches files in their native applications. Unfortunately, Private eXtension also runs as three different programs, which can be confusing.

Speed Readers The most impressive aspect of these products is their speed. We had planned to measure the time it took for both products to perform searches and display the results. However, both were done before we could start our stopwatch. This astounding performance was across our 600-file directory, running on a Pentium 200.

As you can imagine, especially if you're hooked up to several networked drives, both of these products require a hefty chunk of drive space for their indexed databases. But both give you the power to select only the type of documents you want indexed, either by file type or drive.

Which is best suited to help you find your documents fast? If you have hundreds of documents you want to access, or

FILEBOX

Search'97 Personal

Verdict: Find any document on your drive in a flash.

Pros: Fast searching; easy to use; built-in viewer; plenty of powerful search options.

Cons: No built-in scheduling; a little more expensive.

580 est. street price Verity, (408) 541-1500 Reader Service No. 654

AltaVista Search My Computer Private eXtension

Verdict: After a little tinkering, you'll be able to find any file in a flash.

Pros: Fast searching; easy to use; impressive scheduling.

Cons: Runs as three different programs: difficult setup.

530 est. street price Digital Equipment Corp.'s AltaVista Internet Software (800) 356-7890, (508) 486-2308 Reader Service No. 655

want to view documents created by applications you don't have installed, choose Verity Search'97 Personal. It's more expensive, but it's easier to use and gives you far more search options. Unfortunately, it doesn't have a built-in scheduler for document indexing. If you're looking for a simple and inexpensive way to find only your own documents, pick AltaVista Search My Computer Private eXtension, While configuring it takes a little more elbow grease, you have to do it only once. It lets you set up timed indexes to keep your search database up-to-date, and helps you find any document in a jiffy. WAYNE KAWAMOTO

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New! Software: Stac ReachOut 7 vs. Microcom Carbon Copy 32

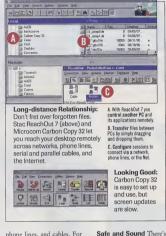
Office Access from Anywhere

It doesn't matter how much you prepare. The second you hit the road, you'll remember that key file you left behind on your desktop PC. But forget about pulling a U-turn, or even coaxing a coworker to e-mail it to you. With remoteaccess software like Stac ReachOut 7 or Microcom Carbon Copy 32 you can control your PC over a phone line, either by dialing direct or via the Internet. Either package lets you painlessly transfer and update files-and the in-depth security features let system administrators sleep at night.

We evaluated both packages for performance and features. Both ReachOut and Carbon Copy 32 did a capable job of making remote connections. But after taking a closer look we found some definite differences. While neither product quite matches market-leader Symantee pcAnywher32 or Traveling Software LapLink (see "Reach Your Files from Afar," November 1996, page 108), both have their unique strengths.

Keep in Touch Both ReachOut and Carbon Copy 32 support modems to connect over phone lines, and NetWare and TCP/IP to make network connections, Reach-Out also offers support for NetBIOS/NetBEUI. Besides letting you make connections across the Internet, ReachOut lets you control a PC using a 32-bit Web browser like Microsoft Internet Explorer or Netscape Navigator. Carbon Copy 32 did something similar in a prior 16-bit version, but doesn't in this new 32-bit version.

We tested various remote sessions across networks,



phone lines, and cables. For raw speed, ReachOut was faster at opening our test suite of applications, and faster at transferring our test files via network and modern connections. Carbon Copy 32 offers more flexible connections so you can view and control multiple computers at the same time from one PC. For the most park, we encountered no problems making our remote connections.

So you can work with older machines, both products communicate with their earlier Windows 3.1 and DOS versions. ReachOut 7 includes Windows 3.1 and DOS versions along with the latest for Windows 95 and NT.

ANA Excellent

Sale and Sound Infecs trustworthy security in both products that includes password protection, callbacks, directory restrictions, and the ability to disable the host keyboard and monitor. Reach-Out's more thorough security conveniently integrates with that of Windows NT to use the same passwords and usernames, and it offers its own data encryption.

In general, Carbon Copy 32 is easier to set up, has a friendlier interface, and comes with useful tools for resizing and controlling remote windows. ReachOut is fairly intuitive, but has some rough edges. For example, we had difficulty installing ReachOut on one of

FILEBOX

ReachOut 7

Verdict: A handy way to touch

Pros: Speedy performance; encrypted security; unique browser control: nice price.

Cons: Setup isn't effortless; some parts of interface aren't intuitive.

\$139 est. street price Stac (800) 279-7822, (619) 794-3741 Reader Service No. 656

Carbon Copy 32

Verdict: An easy and attractive way to reach your desktop if you don't mind going slow.

Pros: Easy to use; excellent remote-control features; lets you control multiple PCs.

Cons: Slow performance; lacks NetBIOS support.

\$149 est, street price Microcom (800) 822-8224, (617) 551-1000 *Reader Service No. 657*

our test machines and had to edit system files to get the program to run, and we were unable to reduce a full-size screen once we expanded it. With Carbon Copy 32, there's a convenient tool to do this.

In choosing between Reach-Out 7 and Carbon Copy 32, the scales tip toward Reach-Out for its faster performance, browser-based Internet connections, NetBIOS support, and encrypted security. On the other hand, Carbon Copy 32 is a first-rate product that controls multiple PCs and is slightly easier to use. Either way, you can always work from a distance, and leave no work sitting behind in the office. WAYNE KAWAMOTO

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Microsoft Internet Explorer 4.0 Platform Preview

The Future of Windows and the Web

when you cross a Web browser with PREVIEW Windows 952 That's the ambitious premise behind Microsoft's next-generation Internet Explorer 4.0 (IE4). Any day now, Microsoft promises, you'll be able to manage information of all sorts-Web pages, local files, e-mail, and network resources-from a single browser window. The first public release of IE4 delivers a glimpse of how this universal browser will work, along with all the bugs you'd expect.

What do you get

Officials at Microsoft freely acknowledge that this Platform Preview test release doesn't even qualify as beta software. Expect several beta cycles before the final release appears sometime after midvear.

No Thin Client IE4 matches the Netscape Communicator suite nearly feature for feature. The package we looked at included a Web browser. Windows shell extensions, ActiveX controls, and a full suite of communication applications: the Outlook Express mail and news client; NetMeeting 2.0 for conferencing; FrontPad, a no-frills HTML-authoring tool; Net-Show, a streaming-video control; and updates to Personal Web Server and the Web Publishing Wizard. The package supports Windows 95 and Windows NT 4.0 only.

With separate executables for Windows 95 and NT, our prerelease version included more than 46MB of compressed code. The final release should allow you to choose components, but we predict you'll



need a minimum of 20MB. Fortunately, an Active Setup program will manage the process and let you pick up where you left off if you're disconnected while downloading.

Despite its bulk, this release was far from complete. We weren't able to see the ActiveDesktop in operation, with its live HTML components, nor were we able to find a way to get to the Windows Scripting Host. The muchtouted push technology that brings channels like MSNBC and PointCast to the desktop wasn't enabled either. You'll also have to wait a while longer for FrontPad's Personal Home Page Wizard.

Power Browser At first glance, the IE4 Web browser looks much like its predecessor. The toolbars in the new browser are identical to those in Internet Explorer 3.0, as are the five Ouick Link buttons, the address box, and the status bar. Once you begin pulling down menus, though, you'll find an assortment of redesigned dialog boxes and a few new features, including the Microsoft Wallet, which manages credit card information for online purchases.

There are dozens of subtle

FILEBOX

Internet Explorer 4.0 Platform Preview

Verdict: An intriguing glimpse of the future Windows and Web interface, but wait for more stable releases.

Pros: Free; nearly seamless integration between the Windows Explorer and its Web-browsing counterpart; excellent mail and newsreader; supports next-generation Web standards.

Cons: Desktop channels not yet enabled; significant bugs and missing features; interface likely to undergo further refinement

Competition: Netscape Communicator matches most of Internet Explorer 4.0's features but costs \$59, and isn't nearly as tightly married to the Windows interface.

Microsoft Corp. (800) 426-9400, (206) 882-8080, www.microsoft.com/ie/ie40

usability enhancements as well. The AutoComplete feature, which fills in previously used Web addresses after you enter a few characters, is lifted straight from Office 97. An improved search function keeps results in a frame while you browse the links in found, and you can right-click on the Back and Forward buttons to bypass the back-back-back routine and jump straight to a page you visited earlier.

IE4 also makes it easier to manage Favorites, collections of Internet shortcuts analogous to Netscape Navigator's bookmarks. And when you

Guide to the Ratings: ARANA Excellent ARANA Good ARA Acceptable an Poor & Unacceptable

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designate an address as a Smart Favorite, IE4 monitors that page daily or weekly, alerting you to changes.

Home users and notebook owners will get the most from IE4's newly added offline browsing capabilities. In IE4 parlance, you "subscribe" to a site, telling the browser when and how to connect and how many pages deep it should dive into a site. A menu choice toggles between normal browsing and offline mode.

End users won't see many of IEA's under-the-hood improvements right wavy, unless they look at Microsoft's site. Web developers will have to make an extra effort to support Dynamic HTIML, which uses lightweight HTIML to refresh a screen region without reloading the entire page; there's also no guarantee that developers will flock to new IE4-specific ActiveX controls.

Shell Games Longtime Windows users will have to retrain their index fingers for IE4. The most radical adjustment is the single-click access that treats file and folder icons. including desktop shortcuts, as hyperlinks. To switch from Web browsing to file management, you type a folder name in the browser's address bar. You use the same window for file and Web browsing, although toolbars change to reflect the different environments, sometimes with confusing results.

IE4's Web view can display files and folders using a background graphic and an HTML template. With modest effort, you can craft a template that filters out clutter, explains the folder's contents, and streamlines navigation. If you prefer the standard Windows display, you can easily turn off Web view. With the IE4 shell installed, you'll also see major changes in the Windows 95 Taskbar, The browser's address box can dock onto the Taskbar, as can additional toolbars that give users quick access to desktop icons, links, and folders.

Mailboxes, Etc. For Et-4, mail and news features got a complete overhaul and a new name: Outlook Express. Like its flawed predecessor, Internet Mail and News, it supports HTML or plain text. If you choose HTML, you can edit and send a full Web page. Managing mail is easier than before, because Outlook Express supports hierarchical folders and allows drag-anddrop filing. Mail junkies will appreciate the one-step access to multiple POP3 and IMAP4 accounts, as well as encryption and digital signing.

Unfortunitely, Outlook Express includes yet another Microsoft address book; at least this one can import addresses from Exchange and automatically add address entries as you receive e-mail. Support for Lightweight Directory Access Protocol (LDAP) makes it casier to find a correspondent's address, and support for public servers like Four11 and Bigfoot is built in.

For real-time communications, NetMeeting 2.0 lets you connect two or more machines across a network or the Internet. You can then share applications, chat using text or voice or both, and use a common whiteboard.

FrontPad is a strippeddown version of the HTML editor in Microsoft's Front-Page 97 program. Creating pages from scratch was a challenge, especially given the lack of documentation, but editing existing Web pages was a snap.

Bumpy Road Although this carly version of IE4 occasionally felt like a finished product, there were some unpleasant surprises in operation. We encountered numerous general protection faults and a handful of features that simply didn't work. That's not surprising, given the depth of changes this package makes in the Windows shell and in crucial networking components.

Still, it's free, and developers will find it useful for preparing next-generation Web sites. Our advice is to install this package on a test system only; wait for more stable releases before pressing IE4 into service on a production machine. **ED BOTT**

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While you're string there, something is happening in the world. It's called "the news." With the PointCast Network?" you can get it hroadcast straight to your dektop: wenther reports, world news, industry news, stock updates and more. Suddenly your computer screen is transformed into a dynamic, up-to-the-minute newwire complete with lively headlines, vibrant graphics and scolling stock ticker. PointCast is completely customicable so you can get just the news you want. And, with PointCast" 1-Server, your company can even add its own, private channel to the PointCast Network. The Wall Street Journal gives the PointCast Network "must-have" status for in-the-know computer owners." Download it free at www.pointcast.com or visit your local terialer.

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New! INTERNET: Adobe PageMill 2.0

Drag-and-Drop Web Page Design

If you've ever used wizard-based program to build PREVIEW Web pages-one

that uses templates to guide you through the page-creation process-you know you don't have to be an HTML. programmer to design a decent-looking Web site, But while wizards are easy, most don't let vou view vour work until you've completed every step. If you hate the finished product, you have to start over. The alternative? Adobe PageMill 2.0.

Taking the best that wizards have to offer, PageMill 2.0 also lets you view pages as you create them. With an easy-to-use interface that combines the most useful elements of a word processor and a Web browser, PageMill lets you create Web pages even if vou don't speak HTML. Its powerful combination of drag-and-drop design tools; strong support for popular multimedia formats like QuickTime, Shockwave, AVI, and animated GIF; and easy handling of HTML tables and frames make it a winner for simple page creation. While it may not offer the hand-holding of the wizardbased HTML-authoring programs, it's a good choice for Web designers who like to make changes while they work.

Familiar Face The program's best feature is its browser-like interface, which offers both Preview and Edit views. In Edit view, PageMill works like a word processor. Want to add text to a page? Position the cursor, click the left mouse button, and start typing. To make a word or sentence bold or italic, highlight the text with your mouse



Think Visually: Adobe PageMill 2.0 works much like a desktoppublishing package, letting Web designers craft Web pages graphically, It also adds a variety of time-savers, including a spellchecker, drag-and-drop tools, and the ability to view HTML code.

Instant Gratification: To see how your page will look from a Web browser, simply click on the big Preview icon in the upperright corner.

C. Add data directly to tables-just select a cell and type in the new information. **Our Best Year Ever!** and from the a subjective

access to page-design

B. Make text changes.

directly in the document.

including font size,

elements

and click on the corresponding icon on the toolbar. Adding a table is just as easy; Click on the table icon and drag out the appropriate number of rows and columns. A table then appears on your Web page and you can enter data directly into its cells. The end result? It's easier to see what works-and to change what doesn't-while you're designing the page, instead of afterward.

In Preview mode, PageMill resembles a bare-bones Web browser with large Back, Forward, and Home buttons at the top of the screen. It's handy for seeing how your page will look and behave when viewed in a browser. If you add a link to another Web page in Edit mode, for instance, you can toggle to Preview mode and click on the link to see if it works.

Smart Links PageMill's drag-and-drop tools are topnotch. To create a link to another document simply drag the file from the Windows desktop, Explorer, or another program, and drop it on your Web page. PageMill automatically creates the link and inserts the file's name on your page. You can then type in a descriptive title instead of the full path and filename. You can also drag and drop

FILEBOX

Adobe PageMill 2.0 10.01

Verdict: Easy-to-use design tools make building basic pages easy-but Web pros will crave more control.

Pros: No HTML coding required; Preview mode lets you quickly view your work: spell-checker: drag-and-drop tools for adding Java applets to pages.

Cons: Lacks site-management tools and a mini Web server: no wizards or tutorials: no view of multiple Web pages.

Competition: PageMill 2.0 lacks NetObjects Fusion's excellent site-viewing feature. Also, PageMill doesn't match Microsoft FrontPage, which includes a mini Web server and easy site management.

System Requirements: Windows 95 or Windows NT 4.0. 486 CPU /Pentium recommended), 8MB of RAM 16MB for Windows NT), 20MB of hard disk space.

\$99 est, street price (800) 411-8657, (408) 536-6000

Java applets and other components onto your pages.

Unfortunately, PageMill 2.0 lacks a flowchart-like feature-such as the one in Net-Objects Fusion 2.0-to provide a graphical representation of all the pages in your Web site. Also, PageMill doesn't come close to the power of Microsoft FrontPage 97, which adds site-management tools and a mini Web server-neither of which is included with Page-Mill. Despite these shortcomings, however, version 2.0's easy-to-use authoring tools make it a fine choice for nonprofessional Web developers everywhere. JEFF BERTOLUCCI

Guide to the Ratings:

ANA Excellent Acceptable Good A Poor A Unacceptable

.WORK THE WEB

THE NEW WEB-TUNED LOTUS 1·2·3 HAS ARRIVED - WHY JUST CRUNCH NUMBERS WHEN YOU CAN CRUNCH COMPETITORS?

INTRODUCING LOTUS SMARTSUITE" 97 WITH THE NEW 1-2-3" 97. The Web is not a toy. With SmartSuite 97, it can be a serious competitive advantage. Now, from inside any Lotus 1-2-3 spreadsheet, you can grab the most current market data for your sales forecast — red-hot off the Web. Then publish the forecast directly to a Lotus Notes" database and onto your company intranet. So, in this ruthhessiy competitive world, you and your coworkers can be armed with up-to-the-second information that can help you do your jobs more effectively.

THE FIRST OFFICE SUITE SPECIFICALLY DESIGNED TO WORK THE WEB. SmartSuite 97 is web-conscious through and through. Each application lets you connect immediately to whatever information is vital to the task at hand. And each application makes it easy to publish your work onto the Net, emovering others to make the best decisions.

SmartSulte 97 also makes it easy to stay organized as you stay up-to-date. The Lotus SmartCenter[®] (Its you create a set of personalized drawers for applications, files and every source of information. (The SmartCenter Interest drawer provides line Web access to news and more,)¹ (S all about getting more stuff done and staying ahead of the competition. If not crunching them entirely. SmartSulte is included with IBM⁴ Apriva⁺. Thin&Pad⁺ and PC desktops, as well as AST⁺ Advantage PCs. Foryour free SmartSulte 97 trial (D, call us at 1: 400-TRADE-LUP ex LOS)s, or visit www.lotus.com/SmartSulte. 12.3⁹⁷ spreadsheet wood processor APPOACH^a diabase receltance Capanics^{an} presentation graphics ORGANIZER^a time mangement SCREEKCAM^a multimedia tool

SMARTSUITE.97



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New! INTERNET: Microsoft Visual InterDev

Make the Most of Your Web Site



There's no need to reinvent the wheel when you're creating your com-

pany's Web site. If you have a big database, use it. Already have plenty of graphics from previous marketing materials? Use those too. Sprinkle in a few pieces of ActiveX and Java, and you're ready to present your company to the world.

Easier said than done? If you're serious about Web-site development, Microsoft's new Visual InterDev Web Application Development System delivers everything you need. Part HTML creator, part database tool, part Web site manager, Visual InterDev isn't for the faint of heart. But if you need the tools to make a heavy-duty site and are familiar with Microsoft's other development tools like Visual Basic and Visual I++, this is the package for you.

Åll for One Think of Visual InterDev as the Swiss Army knife of Web builders. While there are plenty of great HTML editors, Java builders, and image-editing programs, Visual InterDev throws all the functions into one package. Beyond the HTML-building basics, there's complete Web site management, ActiveX object creation, image editing, client-side and server-side scripting, and even sound editing.

But Visual InterDev's real power lies in its databaseintegration abilities. Visual InterDev works with any ODBC-compliant database to changing Web site. Want to create a custom-made start pagefor each of your site's visitors? How about a page that automatically updates once an hour? With a database-driven



Build It Better: Make the most of your company's Web site or intranet. Microsoft's Visual InterDev includes a collection of powerful Web development tools that handle everything from site management to database integration. Also included: tools for building ActiveX controls.



A. Organize all the parts of your page from one central location. B. Add ActiveX

components like video clips to any page. C. Link a live database to your site by importing a

few fields.

Custom Delivery: Visual InterDev's powerful databaseintegration tools let visitors query a live database and

integration tools let visitors query a live database and retrieve custom pages on the fly.

FILEBOX

Visual InterDev

Verdict: The stuff professional Web sites are made of.

Pros: Integrated site management: graphical Website building: tight integration with several other programming environments; complete database integration; ActiveX and Java applet oreation; simultaneous multiple-user support.

Cons: Most elements require a substantial amount of programming know-how; no remote site management; lacks some multimedia tools, such as an animation package.

Competition: All-in-one Web builders like Haht Software HahtSite, Macromedia Backstage, and NetObjects Fusion offer Web publishing, graphical site management, and database integration in one package. However, none of the others offer development muscle like ActiveX or Java applet building.

\$499 est. street price, \$249 for upgrade Microsoft Corp. (800) 503-3956, (206) 936-8080 *Reader Service No. 661*

Web site it's a piece of cake, and that's Visual InterDev's specialty. While it works with large SQL databases, its integration with Microsoft database products like Access 97 is exceptional. For instance, Visual InterDev knows all the options possible with Access 97 and offers them to you as you interzerate he database.

Total Control Want something a little flashier? How about using an ActiveX control to add some multimedia finesse? With Visual InterDev you simply drag and drop a control where you want it on the page. Then just choose how you want the object to act, and all the code is written for you. The same goes for simple Java applets.

Finally, when it comes to basic HTML creation, Visual InterDev works much like Microsoft FrontPage 97. Unfortunately, it doesn't do all the hand-holding that Front-Page does. Although you don't have to manually type in your code, not everything is as automated or as easy.

That goes for the rest of the package as well. While there are plenty of places where you get to skip the scripting, some programming knowledge is required. This package is perfect for large Web-building teams that want to crank out a whole new site in a hurry. The package supports multiple users, so more than one person can work on the same project simultaneously. If all you need is a static site with a few well-placed bells and whistles, Visual InterDev is overkill. But if you need a serious site that's going to make your competition green with envy, this is the toolbox SCOTT NAYLOR for you.

Guide to the Ratings:

ARAAA Excellent

ARA Good ARA Acceptable A Poor A Unacceptable



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The highest-performing Intel processor. Combines the power of a Pentium" Pro processor with the magic of MMX" technology. At 266MHz, this processor is capable of delivering nearly two times the processing power over a 200MHz Pentium" processor.

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Finally, true plug & play. No more IRQ or COM port conflicts when it comes to connecting hardware. Two USB ports come standard on most Quantex systems so you can take advantage of the new, hot USB peripherals.

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- DVD Decoder Board
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Your system purchase:	5M-4x or 5m-4	3M-3X 01 3M
DVD Upgrade Package C	ost: \$499	\$569

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QP6	/266	SM-4x	\$2100	Business
(feoturing	the Pentium'	II Processor)	20177	\$104/Mo.

- 266MHz Pentium* II Processor
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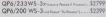
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- Quantex Software Bundle (Including Corel WordPerfect Suite)

QP6/233	SM-3x(features Pentium II Processor)\$2649
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fudes 256KB Internal L2 Cache



New! INTERNET: The Vision Factory Cat@log 1.0

Hawk Your Wares on the Web

It's not hype: Electronic commerce is the next killer app. So how do you go about setting up shop on the Web? The Vision Factory's Cat@log 1.0 is the latest contender for building your own online shop. Like other e-commerce software, Cat@log works with your Internet server and an existing catalog database to dynamically generate Web pages. While it's a little more difficult to use than all-inone builders like ICat Electronic Commerce Suite, it offers more store-building power at a comparable price.

Open for Business Cat@log has four major components: Builder, Manager/ Online Publisher, Commerce, and Customer Statistics. Cat-@log Builder is the module in which you construct the site. It generates both your static and dynamic Web pages, including the forms and query pages. Builder lets you quickly navigate and organize the site using a visual hierarchy, and it's flexible enough that you can design your page any way you want.

Builder makes you use both a third-party graphical Webpage publisher and a text editor to tweak the HTML. While this is a core strength since it provides a lot of flexibility for designing your pages, it also means Cat@0g requires a greater level of Web-building expertise than some of its more "push-buttom" competitors.

Cat@log Manager/Online Publisher arbitrates queries between your Web catalog and your product database, generating search results in the form of catalog pages seen by your customers. You don't work with Manager directly; it runs in the background, called by the Web pages whenever a dynamic



Big Sale: Make your online store stand out from the rest and keep close tabs on your customers with The Vision Factory's Cat@log. You supply the list of products you want to sell and the design, and Cat@log does the rest.



Web browser. Mers with @log. You ign, and Sell High: Since your site is

you're building it with any

built around a database, customers can quickly find anything you're selling by searching or clicking through categories.

page needs to be generated.

The Cat@log Commerce module integrates Manager with secure, third-party payment authorization services like VeriFoue. The package's module: It provides statistics on store traffic, customer shopping profiles, and the like-meccesary information for anyone who wants to build an effective storefront.

Wet Paint Curiously, all four components of Cat@log are sold separately. While one could theoretically deliver a site using only Builder and Manager, in practice all four components are required. In particular, the Customer Statistics module seems a strange feature to break out of the product since it delivers information essential to the opertion of any online business. And if you buy all four, there's a big bottom line—over \$6,500. That's on par with several of rather have it all in one with a smaller price tag.

Cat@log's manual is well written and the product shows a lot of promise. However, there are some glaring omissions. Cat@log lacks complete remote-management features, so most of the serious site maintenance needs to happen wherever the server is physically

FILEBOX

Cat@log 1.0

Verdict: A complex but versatile tool for putting all your wares on the Web.

Pros: Tremendous flexibility if you aren't afraid to do a little HTML legwork; outstanding site and customer tracking; open to most data types; lets you design any type of Web page around your data.

Cons: Confusing piecemeal pricing structure; lacks complete remote site management and onthe-fly inventory management; can require some heavy-duty design work on the back end.

System Requirements: Windows NT Server 4.0, NT-based Web server such as Internet Information Server, 32MB of RAM, less than 5MB of hard disk space.

\$1,950 for Cat@log Builder, \$2,856 for Cat@log Manager/ Online Publisher, \$995 for Cat@log Commerce, \$995 for Cat@log Castomer Statistics, est, street prices The Vision Factory (888) 488-3228, (408) 461-2100 Reader, Streitor, No. 663

located. Also, there were no native inventory-management features, which would tell customers a certain product is out of stock before they put it in their shopping baskets.

Presumably, both of these features could be crafted with a little ingenuity on the part of the database and catalog designers, but should you have to spend time scripting such basic features?

If you know your way around a database and don't want your online store to have a cookie-cutter look, check out Cat@log. While it's not the easiest to use and lacks a few features, it gives you total design freedom. DAVID GENDING

Guide to the Ratings:

Acceptable Excellent

A Poor A Unacceptable

Brace Yourself for This Stuff

The Intel Pentium[®] || processor gets airborne thanks to a combination of the brute power of Intel's Pentium[®] Pro processor and the multimedia wonders of MMx^{TM*} technology.

pentium II

intal

The Gateway GG-266XL system's foundation is a performance triple play: 266MHz, 512K cache and 64MB of EDD RAM.

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And You Get It from These Guys

C. CONSIGNATION

G-GETERRI 2000

Into The GUTS

OF This Bad Boy

You Put This __Little Baby



G6-266XL

- Intel[®] 266MHz Pentium[®] II Processor with 512K Cache
 Single Edge Contact Cartridge Form Factor
- 64MB EDO RAM Two 32MB Modules, Expandable to 128MB
- 9GB Ultra Wide SCSI-2 Hard Drive
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New! INTERNET: Whistle Communications InterJet 100

Get on the Net in an Instant

You're finally giving in. It's time to get your small company hooked up to the Web. Forget an IS staff. Forget hiring an expensive consultant. And forget doling out America Online accounts to all your employees. If you want to get all of the Net right now, check out Whistle Communications' Interfet 100.

If you have a small network, you have everything you need. Simply plug in the box and let it go to work. Within minutes you'll have a secure Internet connection, complete with e-mail, Web browsing, and your own Web page.

Sound too good to be true? Well, if your company is on the upswing, you may quickly outgrow the InterJet. Once you connect more than a handful of machines, its performance dwindles fast. And if you want to build a cutting-edge Web site of your own, the InterJet may not be right for you.

Ready to Serve Here's how it works Call any particpating. Internet provider (including NetCom and several others), place an order for an InterJet, and request a domain name. When the InterJet arrives, just plug in a network cable and a phone line. All you have to do is dial the Internet provider and the machine is automatically configured. Then, through the included copy of Netscage Navigator 2.0, set up your various mail and user accounts.

Since a small-office network setup can be a bit of a FmAkenstein, the InterJet is flexible enough to handle just about anything. It can use your existing Internet protocol (IP) network or supply you with a fresh group of IP addresses, or your whole company can work from one IP address, which means lower. Internet



Small-Office Hero: Need to get your small office on the Net in a hurry? The Whistle Communications InterLet 100 delivers Internet – e-mail. Web browsing, Web publishing, and firewall protection to your entire company in a matter of minutes. All you need is a network connection and a phone line.

Sign Me Up: Adding a new e-mail account is as easy as filling in the blanks and clicking on boxes in the included copy of Netscape Navigator 2.0.



access fees. Although the unit is Unix-based, it supports most Windows and Macintosh network protocols, including IPX and AppleTalk.

Honked In Once you're up and running, there are plenty of things you can do. Since the box includes a copy of Apache Web server, you can post your wom Web pages to the Internet or on your company's intranet. The InterJet's 1.2GB hard drive gives you plenty of normany is Home Page, an easy but limited Web-page builder.

The box also includes a fiveuser license of Netscape Navigator 2.0 and an unlimited

Acceptable Excellent

license of Qualcomm Eudora Light, an easy-to-use e-mail package that's powerful enough for most people. If the software doesn't suit your fancty, simply go out and buy something else. Any IP-compliant client software works with the Interjet.

While the InterJet can do many things, it can't do everything. Don't think of it as a normal server. You can't use any special every software for things like remote file sharing, videoconferencing, or textbased chatting. Also, the InterJet's 33.6Kbps modem maxes out when more than a couple people surf the Web.

FILEBOX

InterJet 100

Verdict: The fastest and easiest way to get a small company on the Net.

Pros: Low cost; painless setup; all the hardware and software you need for Net access; upgradable to ISDN or T1 connection; firewall protection; Web-based management.

Cons: For small offices only; too slow for several simultaneous Web connections; limited Web-publishing features; no control over user access; no newsgroup reader.

Features As Tested: 75MHz 486 CPU, 8MB of RAM, 1.26B EIDE hard drive, three ISA expansion slots, four-port 10Base-Thub, 33.6Kbps modem, embedded FreeBSD Unix operating system, frive-user version of Netscape Navigator 2.0, Claris Home Page, Qualcom Eudora Light, Apache Web server.

\$1,995 est, street price Whistle Communications (888) 494-4785, (415) 577-7000 Reader Service No. 663

You can upgrade to either an ISDN or a TI connection, but that costs you extra. There's also no way to limit your office's access to the Web or e-mail. If you decide to go with an ISDN line; that could mean big bills if you have a few night-owl Web surfers on your staff. And while \$1,995 is an outstanding price for instant Internet access, that price may rise quickly.

If your needs aren't fancy and your small office will remain small for some time, there's no easier or more affordable way to get your company on the Net than with the InterJet 100. LUCAS JACKSON

A Poor & Unacceptable

Guide to the Ratings:

Meet The Perfect Partner For Business Travel. At An Economy Fare.

When it comes to notebook performance, the new Compaq Armada 1510DM really soars above the rest. For starters, it has a powerful 120MHz Pentium' processor and 16MB EDO RAM expandable to 80MB. Plus, it has an integrated modem and integrated AC adapter. Even better, the Armada 1510DM allows you to easily access your hard drive, floppy drive, and CD-ROM drive simultaneously.

The Armada 1510DM also includes the quality and reliability you'll find only in a Compaq. So call today and get everything you need to manage your business at home or on the road—without compromising your budget. At \$1,999 if is a first-class deal.

Compag Armada 1510DM * \$1,999"

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- * 16MB RAM (expandable up to 80MB)
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- * 11.3' CSTN SVGA Color Display
- Integrated Components: 10X CD-ROM
 3.5' 1.44MB Diskette Drive AC Adapter
 33.6Kbps Data/Fax Modem
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- Windows^{*} 95 or Windows NT-Workstation 4.0 Pre-installed
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COMPAO 1-800-308-7774



Net-It Software Net-It Now 1.5

One-Button Java Publishing

PREVIEW Mom taught you that it's nice to share with others. But she had no idea how difficult it is to share desktop documents at work. If

she did, then she'd probably recommend Net-It Software's Net-It Now 1.5. This workgroup publishing utility is the fastest, easiest way to share 32-bit Windows documents with non-Windows colleagues.

With a few simple button clicks, Net-It Now 1.5 converts almost any Windows document to jDoc, Net-It Now's Java-compilant file format. Then, any Java-enabled browser can view your jDoc file, which maintains most of the look and feel of the original document. And since it's all Java-based, it's easy to add interaction and animation for snazy online publishing.

Fine Print After a routine installation, Net-It Now appears as a printer on your desktop. Unfortunately, it installs itself as the default printer. That's easily changed, but still annoying, especially if most of your print jobs need to go to a real printer. As a "printer," Net-It Now accepts any 32-bit Windows file. For example, it's easy to "print" a Microsoft Word document or a Microsoft Excel spreadsheet directly to Net-It Now. These documents then become Net-It Now files, and are converted to the Java-friendly iDoc format. While it sounds foolproof, there are a few glitches. For one, the Java language itself still offers only a handful of fonts like Times, Arial, and Helvetica. If your original document uses a different font, it is replaced when Net-It Now converts the document.

Also, since these documents



publishing utility that lets you transform just about any document into an efficient, crossplatform, Java-powered page.

Spice It Up: Forget about making another dead document. Net-It Now 1.5 lets you easily add interactive animations from a set of prebuilt elements.



compliant browser.

C. Add interactive

animation to your

otherwise drab

are Java-based, they can't be copied, converted, or printed. A good thing if you want your document to be secure; not so good if you're trying to collaborate with others.

Homemade Besides converting existing documents, it's easy to create documents within Net-It Now using a wizard or from scratch. With Net-It Now's Live Arr, you can insert interactive behaviors, prebulk parts, and navigation styles. For example, you can map hot spots that link to other documents or Web sites. There are also dozens of buttons, pop-ups, and cool transition effects.

Creating these Java-based documents, however, is limited to machines running either Windows 95 or Windows NT. Viewing jDoc files, on the other hand, is open to any platform that can host a Java-compliant browser—16-bit Windows, Macintosh, Unix, network computers, and so forth.

After previewing jDoc files in either Net-It Now or your Java-enabled Web browser, you can use Net-It Now's built-in FTP support to upload your pages to your Web server.

FILEBOX

- (rtl x)

Net-It Now 1.5

Verdict: The easiest way to share your documents with the rest of the world on the Web.

Pros: Easy to use; cool interactive animation features; easily viewed by anyone with a Java-compliant browser.

Cons: A little expensive; lacks local, personal Web server; only a handful of fonts; converted documents cannot be copied or printed; converts only 32-bit Windows documents.

Competitions: Adobe Systems' \$295 Aerobat 3.0. Hummingbird Communications' \$195 Common Ground Publisher 3.0.1, and Tumblewed Systems' \$243 Tumblewed Publishing essentials 1.1 all all mit publish cross-platform documents (see "Publish Without Paper," May 1957, pape 1071, While all three have sarious features not found Net-H Way, none an match Net-H Way, none and match Net-H Way, none and match Net-H Way, none and match Sile efficiency.

5299 for single-user version, 5599 for three-pack workgroup version, est, street prices Net-It Software (888) 638-4844, (415) 551-0600 *Reader Service No.* 664

Unfortunately, Net-It Now doesn't include a personal Web server for peer-to-peer sharing. And whereas some basic sitemanagement tools are included, large-scale projects might prove difficult to maintain. Compared with other cross-platform publishing tools like Adobe Acrobat, Net-It Now is a little more expensive but an easier way to go. While Acrobat is a better choice for high-end online publishing, Net-It Now 1.5 is an effective quick fix for sharing your Windows 95 and NT files with the rest of RICH SCHWERIN the world.

Guide to the Ratings:

AAAAA Excellent Acceptable

☆☆ Poor ☆ Unacceptable

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Circle 276 on reader service card.

New: Starfish Software Internet Utilities 97

Organize Your Web Life

You've organized your files, your finances, your con-PREVIEW tacts, even your Windows 95 desktop, So why is your bookmark list such a mess? It wouldn't be, if you put Starfish Software Internet Utilities 97 in charge. Along with easy, orderly access to your favorite Web sites, this handy little \$30 utility suite serves up some cool Internet tools.

Internet Utilities 97 culls your bookmark files from Netscape Navigator or Microsoft Internet Explorer, then parcels the links-dubbed OuickMarks-into colorcoded, tabbed dividers, Drag and drop OuickMarks between tabs, or use the Explorer-like QuickMark manager for serious organizing. But if you have more than a few dozen



favorites, the navigation may slow you down.

The ruler-sized window displays the local time and date, the duration of your Internet connection, and a graph of the connection speed. Most of the remaining tools are practical. QuickZip manages file compression: News Decoder manages binary files. QuickRoute visually traces the data path between you and another server, letting you pinpoint bottlenecks: but this data is of

FILEBOX

Internet Utilities 97

to the total

Verdict: Everything you need to get your Web surfing in order.

Pros. Puts favorite sites and helpful Internet tools at your fingertips: logs connection times; identifies pokey servers.

Cons: Eats a fair chunk of your screen: tabs not ideal for managing a lot of bookmarks.

(888) 782-7347, (408) 461-5800 Reader Service No. 665

little value since you can't reroute your connection.

Even if you're not wild about Internet I Itilities 97's bookmark management, it's hard not to like the package. For just \$30, it houses a multitude of useful tools. RICK BROIDA

IFusion Com Arrive

Custom News Comes Alive



3 Stop that morning regimen of surfing to several sites to PREVIEW get all the news you want. Instead, tune in to a new Internet service channel

that delivers custom content right to your Windows desktop: IFusion Com's ArrIve.

ArrIve uses music, sound, and plenty of other multimedia enhancements. And although dozens of companies are following the lead of Internetbased newscasting pioneer PointCast Network (see "Free News You Can Use," December 1996, page 147), so far none can match ArrIve's rich multimedia design and delivery. The catch? There's not a



Broadcast News: Tune in to the eye-pleasing broadcast channel of your choice with IFusion Com Arrive.

lot of content arriving vet.

ArrIve's free viewer is downloadable from the IFusion Com home page (www.arrive .com), but at 4.2MB it's nearly twice the size of competing viewers, PointCast Network's viewer, for example, is 2.6MB.

In this beta review, there were only five channels-CNNfn. USA Today, KPIX TV and Radio, The Weather Channel, and Epic Center-and only two advertising spots, which appeared in the ArrIve Channel Guide. And most ArrIve content, especially the

Epic Center from Epic Records, is so overtly brandoriented, it's hard to tell where the content ends and the advertising begins.

IFusion Com promises 40 channels by year's end. But for now, ArrIve has more style than RICH SCHWERIN substance.

FILEBOX

Arrive the second

Verdict: Multimedia-rich but relatively content-poor Internet-delivered news for your desktop. Stay tuned.

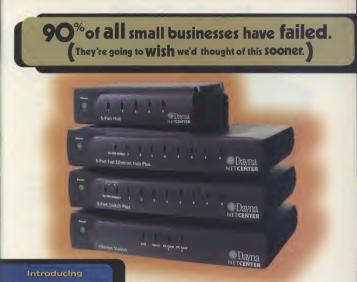
Pros: Free: slick audio-videomultimedia design: beautiful delivery of content- totally customizable.

Cons: Relatively few channels; some content, especially video. is bandwidth-intensive; client is nearly twice the size of other popular push systems.

Fusion Com Corp. (888) 277-4834, (212) 352-4500, Reader Service No. 666

Guide to the Ratings:

ARABA Excellent ARABA Good ARA Acceptable AR Poor & Unacceptable



NET**CENTER****

- ¥ Easily share information & equipment
- ¥ Simple installation & maintenance
- ¥ Stackable compact desktop design
- × Lifetime warranty & free support

Sull in business, huh? Then you're either lucky, or mart. If you're jast lucky, you probably don't need us. But if you're smart, you could use NetCenter,'' the new famly of networking products that bring big business performance to small businesses, with a daring twist: simplicity.

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Circle 333 on reader service card.

Simple networking solutions.

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12

Big is Good. New MX Edge 13.3" TFT LCD!



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133	16MB	1.3GB	10X	\$2750	\$106/mo
166MMX	16MB	2.1GB	10X	\$3120	\$112/mo
200MMX	32MB	2.1GB	10X	\$3460	\$125/mo
200MMX	48MB	3.0GB	10X	\$3855	\$139/mo
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- Intel 440FX Chipset
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- 16x EIDE CD ROM
- 16 Bit Stereo Sound or optional 32 Bit Wave Table Sound Card
- 17" SVGA NI .28DP Monitor
- Micro X Accessory
- Micro X Software Bundle
- Windows 95

*Shown with optional full tower case.

MXP-5001 \$2819

Pentium[®] II 233Mhz

- 9 Bay Mid Tower
- 32MB Fast EDO RAM
- 2.5GB EIDE Hard Drive
- 512KB Pipeline Burst Cache
- Intel 440FX Chipset
- Matrox Mystique w/4MB SGRAM
- 33.6 Fax/Data/Voice/TAD Modem
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Business Lease.....\$116/mo

New. Corel WebMaster Suite

Complete Web Toolbox



Your boss has been taking lessons from Dilbert's pointyhaired tyrant. His

Latest request. A Web site with lots of cool graphics, virtual reality, and Java animations. Oh, and frames and tables would look nice. Deadline? Next week. And a budget? Don't be silly.

With these demands on you, you have two choices: Ouit, or get Corel WebMaster Suite. This collection of three major applications, five supporting programs, and scads of templates and graphics gives you the tools Bundled Web-server software from O'Reilly & Associates gives you an intranet or Internet platform. And you get 30 days on a professionalgrade Web server (www.pagedepot.com) to show off your creations before the meter starts running at \$14.95 a month.

Power Tools WebMaster has two strengths; It packs everything you need, and its graphics tools are powerful. The photo editor Web.Photo-Paint and vector-based Web Draw provide magazinequality photo retouching and illustration. For animated GIFs or Java applets, the cel-based animator Web. Move incorporates actors, backgrounds, timebased events, and soundtracks into a single moving image. And the virtual-reality builder Web.World is easier to use than many of the 3-D tools we've seen, although it doesn't support all of the latest VRML 2.0 standards.

Each of these programs comes with ready-made graphics, characters, sounds, or models. But the real graphics resource is Web.Gallery, an 8,000-strong collection of royalty-free clip art that covers



all the backgrounds and buttons you could want. When you're designing a site, however, Corel's graphics strengths take a back seat to three big functions—HTIML page building, site management, and database publishing. These tasks fall to three tools—Web.Designer, Web.SiteManager, and the wizard-driven Web.Data.

Build It Fast From Corel's 200-plus templates, you build Web pages one object at a time. Create a structure (using frames or tables) and text, then click on toolbar buttons to add links and graphics. Changing an object's properties (such as a hyperlink's target URL) is a snap-just double-click on anything to bring up an editing box. Using this technique, you need only a couple minutes to convert a regular GIF into a navigational image map. When your pages are done, Web.Site-Manager steps in. This flowcharting tool maps the site and checks all the links, internal and external. Need to edit a page to accommodate a broken link? If you know HTML, use the integrated text editor. If you don't, right-click to open the page in Web.Designer.

This collection has its shortcomings, to be sure. There are no sample CGI scripts for forms, page counters, and so

FILEBOX

Corel WebMaster Suite

Verdict: All the tools you need to build and manage Web sites, from eye-candy makers to file-transfer utilities.

Pros: Useful and broad collection of Web site tools from database integrators to Java animators; heavy-duty graphics utilities; plenty of templates, examples, and clip art.

Cons: CGI support doesn't include samples or development tools; doesn't support live databases; weak Java and multimedia components; site management could be better.

Competition: Adobe PageMill, Microsoft FrontPage, and Netscape Navigator Gold cover Web page creation and site management better, but lack many tools. Luckman interactive's Web Studi covers the same bases, but with fewer graphics options.

\$199 to \$249 est. street price Carel Corp. (800) 772-6735, (613) 728-8200 *Reader Service No.* 667

on. In Web.Data, it's a pain to publishall your data records on separate HTML pages—you must step through the process record by record. Web.Designer's interface buries some of its better features: You can create Web forms that send data to an e-mail address, for instance, but who'l know that it's under the Insert Forms URL list box?

Still, WebMaster is greater than the sum of its parts. Its components aren't always the best or easiest to use in their class. But the collection provides all you need to meet tight production deadlines—and create some top-flight sites in the process. MATTHEW J. LAKE

Guide to the Ratings:

AAAAA Excellent

A Poor A Unacceptable

- Maestro Tapping Baton.
- Piano Keys Dancing Entrance Of An Oboe
- Crashing Cymbals
- "Bravo, Bravo!"
- a Cello
- Clarinet Scaling Octaves.
- Audience Shuffling In.
 Appreciative Applause.
 Chord Progressions On
- Grand Piano
- 12. Soft Strokes Of Harp Strings. 13. Chiming Triangle.
- 14. Shhhhhhhhh
- Lightly. 16. Cascading Clarinet.
- 17. Flute Solo.
- 18. Crescendo. 19. Playful Flirtation Of A Piccolo.
- 20. Boom Of A Tuba 21. Pager Beeping. 22. Loud Clapping.

- 23. Low Tones Of A Stand-Up
- 24. Violin And Viola En Duet.
- 25. Plano Sonata
- 26. Wailing Saxophone. 27. Smooth Slide Of A
- Trombon
- 28. Exclamation Of A Trumpet. 29. Rolling Thunder Of A
 - Timpani
- 30. Arpeggio On The Violin. 31. The Reed Section. 32. Pages Of Sheet Music

- Piano Playing Minuet In G.
 Drum Keeping Tempo.
 Violin Staccato.

- 36. Tambourine Jingle
- 37. Clicking Castanets. 38. Relentless Beating of Drums
- 39. Regal Sound Of A French Horn
- 40, Snare Drum Rattling,
- Xylophone Reson
- 42 The Low Pitch Of A Ressoon
- 43. Cello Staccato.
- 44. Pulsating Viola. 45. Viol D'Orchestre
- 46. Flute Ensemble.
- 47. Fluttering Of A Flute. 48. Regimental Sound Of A Bugle.
 49. Plucking Of A Violin.
- 50. "Encorel Encore!
- 51. Orchestra Tuning Up. 52. Silence Between
- Passages. 53. Harmonic Wind From A Flute.
- 54. Obos Solo.
- 55. Soft Snoring
- 56. Decrescendo. 57. Beethoven's 5th.
- 58. Throats Clearing
- Sounds Of Intermission 61. Brass Solo.
- 62. Rattling Of Maracas. 63. "Wake Up, Honey, It's
- 64. The Final Movement.

mphony



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Circle 110 on reader service card.

WE.

New! INTERNET: Marketwave Hit List Standard 2.5 vs. WebManage NetIntellect 2.1

Keep Tabs on Your Web Traffic



Stop flying blind. If you're not monitoring how people interact with

your Web site, you could be missing a golden opportunity. We looked at two of the several Web site-analysis tools that tell you who surfs to your site and, more important, what they surf to: Market water Hit List Standard 2.5 and WebManage Technologies Nethnellect 2.1. Both products work with Web servers from Netscape, Microsoft, and O'Reilly & Associates.

Web-analysis tools work by converting the standard log files generated by your Web server into a common database format like Access or SQL. Once in a database, a good analysis utility turns the raw numbers into a nearly infinite variety of reports of how often, when, and even who (what domain) has been hitting your pages.

Unificentable Barggain Hin List Standard generates, as scheduled, a variety of preconfigured and custom reports in HTML, Microsoft Word, and Microsoft Excel-compatible formats. Hit List stores the HTML reports in the appropriate directories so you can access them remotely, or it e-mails report files right to you. The best part 21's absolutely free.

One of the trickiest problems of generating useful measurements in Web tracking is the abundance of dynamically generated pages. The \$1,995 Professional Edition 3.0 of Hit List shines by answering this problem. It stores the query string of keywords that generate the Web page. Hit List Standard is also useful for recording movement through a site by tracking entry and exit pages, movement from page to



You've Got Visitors: See what works and what doesn't on your Web pages by tracking your site's traffic with Marketwave Hit List Standard 2.5 (above) or WebManage NetIntellect 2.1. Both tools offer easy ways to dig into the who when and where.



A. Hit List's straightforward toolbar includes one-button access to all features.

B. More than a dozen different reports are available for site analysis.
C. Need help? It's just a button-click away.

Audit Friendly:

Only WebManage Technologies NetIntellect 2.1 adheres to BPA's Interactive Audit, a great choice to back up your advertising rates.

page within a site, even the time users spend on most pages.

Who's There? WebManage Technologies' NetIntellect 2.1's main distinguishing feature is its Organization Database. It lets you quickly identify the company and even domain contact information of a visitor by looking up his or her domain of origin. This lets NetIntellect generate general geographical profiles of visitors, which are relevant to advertisers.

NetIntellect's other strength is a preconfigured report that conforms to the BPA International Interactive Audit standard. However, version 2.1 of NetIntellect lacks some of the page-to-page tracking provided by Hit List and, more lamentably, can't track dynamically generated pages.

For most, the freeware version of Hit List will prove an unbeatable value. Only those with more commercially oriented sites like catalogs or ad-supported pages will want to pay for the features in the Professional version. Net-Intellect offers many of the features of Hit List Standard, but currently doesn't add enough value to counter ins free competition. DAVIG GERDME

FILEBOX

Hit List Standard 2.5

Verdict: Amazing insight to traffic on your Web site, and it won't cost you a nickel.

Pros: Unbeatable price; smart HTML-based reports can be accessed remotely.

Cons: Advanced features and broader support only in the expensive edition.

Competition: WebManage's \$199 Nethtellectan't beat Hit List's outstanding price (tree), but Hit List can't match Nethtellect's support for BPA auditing. Also on the horizon: Microsoft's acquisition of Interse, a similar site-log analysis-tool company, could prove challenging to both Hit List and Nethtellect.

Free for Standard version, \$1,995 est, street price for Professional Edition 3.0 Marketwave (800) 521-8176, (206) 682-6801 *Reader Service No. 668*

Netintellect 2.1

Verdict: Keeps a close eye on your audience, but could use some more power.

Pros: Useful geographical analysis; matches some features of Hit List's higher-priced Professional Edition.

Cons: At \$199, can't compete with Hit List's free price; no support for tracking dynamically generated pages or page-topage traffic.

Competition: Marketwave Hit List is free and includes many of the features found in NetIntellect. However, only NetIntellect supports the BPA standard and includes useful geographical analysis features.

\$199 est, street price WebManage Technologies (914) 697-7555 Reader Service No. 669

Guide to the Ratings:

ARANA Excellent ARANA Good ARA Acceptable A Poor & Unacceptable



Rai

Put the pedal to the metal with the new Sound Blaster" AWE64 Gold", the only sound card created to upgrade your Pentium® PC's multimedia audio system. With 64 available voices playing simultaneously and the new WaveGuide technology, music playback will never be the same. And don't worry about compatibility issues, because it's a genuine Sound Blaster. Also,

DirectSound" and DirectSound3D" hardware acceleration is included. For more details and a demonstration of the Sound Blaster AWE64 Gold contact us at: www.SoundBlaster.com/sound/AWE64Gold.

CREATIVE

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Circle 111 on reader service card.

1. Cars Taking Off.

6112

- Breaks Screeching. Hubcaps Scraping.
- Crowd Cheering
- "Place Your Bets!"
- Engine Seizing
- Hearts Pounding. Refueling. Wheels Peeling.

- 10. Breaths Of Anticipation
- 11. "That Was A Close
- 12. Cars Colliding. 13. Backfires.
- 14. Engines Revving
- 15. The Roar Of A Crowd.

- 17. Skidding Into The Plt.
 18. Engine Problems.
 19. Shrieks Of Excitement.
- 20. Vrrmnooooom
- 21. "Low Fuel
- 22. Jamming On The Brakes. 23. Gears Shifting. 24. Ambulance Siren

- 25. Sighs Of Relief.

- 28. Crowd Going Wild.
- "Last Lap!"
- 30. Starting Gun Firing.
- 32. Tires Blowing. 33. 'Hurry! Fill 'Er Up!"
- 35. Tires Being Changed
- 36. Nuts And Bolts Flying
- 37. Grandstand Cheering 38. Gears Grinding. 39. Slamming On The
 - Breaks
- 40. Turning Swiftly
- 41. Pile-Ups. 42. Tires Rolling Off.
- 43. Skidding Uncontrollably
- 44. Loud Screams
- 46. Collision.
- 48. Deafening Cries
- 49. Quick Turns
- 50. Sudden Stops
- 51. Reflex Braking
- 52. 'Gentlemen, Start Your

- Drop Of The Checkered Flag
- Head Gasket Exploding.
 Hitting The Wall On Turn 3.
- 57. Chanting A Winner's
- Name.
- 58. Creaking Of The
- Radio Static 59.
- 61. Accelerating Past The
- Popping. 63. Congratulatory Slaps. 64. Wizzing Past.

New! INTERNET: Datalytics Blaze Web Performance Pack 1.1

Blaze Ahead on the Net

Someday you'll look back at your slow-as-molasses Web connection and laugh—or org--becaue you didn't use a speed-enhancing utility like Datalytics' \$50 Blaze Web Performance Pack 1.1. If you've got the disk space to spare, Blaze's read-shead cache is a nifty way to speed up your Web surfing experience, and is well worth Datalytics' free 30-day trial offer.

Safe Speeds Kudos to Blaze 1.1 just for being a Web accelerator program that doesn't overtax Web servers to the point that their operators feel compelled to block it out (see "Get Peak Performance on the Net," April 1997, page 128). Datalytics has made darn certain that Blaze 1.1 won't cause a firestorm of protest from Webmasters. That means you can use it without feeling guilty and reap the rewards of mildly improved page connections as well as of Blaze Organizer, a program that combines parallel searching, scheduling, and smart bookmarking.

You'll milk the most performance from Blaze's read-ahead cache if you set the disk cache size to 5MB or so. What does Blaze trade for its server friendliness? The primary safeguard is that it does only singlethreaded reads. In other words, it checks only one link at a time.

Blaze's built-in parallelsearch engine is both faster and more accurate than ForeFront Group's WebSeeker, Quarterdeck's WebCompass, Symantee's Internet FastFind, or Iconover's EchoSearch. In part that's because Blaze translates your search query into the language of each of the eight top-notes hearch engines it supports, including Alta-Vista and Infosek.



styles of read-ahead caching. The two grayed-out settings promise some intelligent caching strategies.

It's casy to name and save search results in Blaze, and to schedule automatic updates for them. Blaze even has its own dialer, so it can launch a connection to the Net, run a scheduled search update, and disconnect automatically. That's a handy feature, especially if you start your day going to the same five news sites. This way, Blaze downloads all your information ahead of time and has it waiting for you. Blaze also has a smart bookmarking tool that monitors sites and indicates when they've been updated.

One by One If you're the sort who clicks on a link every 30 seconds, the program probably won't have enough time to prefetch your next selection. Since it checks only one link at a time, it downloads only one page at a time. Other Web accelerators like Peak Technologies Peak Net.Jet download several pages at once, which improves the odds that the next page you pick will be at least partially downloaded.

In future versions of Blaze, coming soon, watch for FILEBOX

Blaze Web Performance Pack 1.1

Verdict: A limited but capable shot in the arm for your Internet connections.

Pros: Read-ahead cache won't anger Web server administrators; top-notch parallel-search tool; future server-side technology could offer impressive performance.

Cons: Read-ahead cache is no barn burner; downloads only one page at a time; interface needs help.

Competition: Combine a kinder, gentler (to servers) version of Peak Technologies' Peak Net. Jet, The ForeFront Group's Webseker parallelsearch tool, and the scheduling features of Symanter's Internet FastFind—and you get the equivalent of Blaze 1.1.

System Requirements: Windows 95 or Windows NT 4.0, 8MB of RAM, 6MB of hard disk space, Netscape Navigator 2.0 or Microsoft Internet Explorer 3.0.

550 est. street price Datalytics (888) 497-3282, (937) 226-7700 *Reader Service No.* 670

improvements to its read-ahead cache. Two new cache settings, Intelligent and Adaptive, will be added. Both settings boost effective performance by precaching links for pages that are more likely to interest you. Datalytics also plans a giant interface upgrade, something that's sorely needed. All in all, the Blaze of the not-so-distant future should address our biggest criticisms of the 1.1 release. And at least some of these new features should be available for download as you SCOT FINNIE read this.

Guide to the Ratings:

ANAR Excellent ARA Good ANA Acceptable A Poor & Unacceptable



Reasons To Upgrad Your Multimedia PC





Introducing the new Sound Blaster® AWE64 Gold, the uncompromised pursuit of perfect fidelity.

- Incredibly smooth, expressive and realistic audio with 64 voices of advanced WavEffects™ and WaveGuide Synthesis.
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- 26. MIDi cable. 27. Recording from microphone, CD or lina-in.
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- volume control. 35. 2, 3.5 and 4MB SoundFont
- 36. Two CD audio-in connectors

- 36. Two CD autown commenced 37. Awasome audio. 38. Powarful percussions. 39. Superior strings. 41. Microaoft© Internet Explorer All microsofte internet Explorer acftware.
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 Rockin' guitar riffs.
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- tware
- software. 47. 128 genersi MiDi instruments. 48. New Crestive WsveSynth/WG™ software. 49. Creative 3D Copter software. 50. Total harmonic distortion (0.01). 51. Creative TextAssist™ software.

- 52. Liiting Irish tenor. 53. Creative VoicaAssist™ softwsre. 54. Creative Multimedis Deck™

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- software. Direct sound 3D hsrdware
- 32-level control for mixing 61.
- Talk over the internet in raal time.
- 32-level control for mixing output. 64. MIDI Orcheatrator Plus™
- software

New! INTERNET: WinWhatWhere 97 vs. Kansmen LittleBrother 1.2

Control Your Internet Access

Are you a Web-rowing, gameplaying, bandwidth-wasting, corporate slacker? Beware! Big Brother is watching, Well, actually Kansmen LittleBrother 1.2 or WinWhatWhere 97 may be watching. They're just two of several new software products that monitor your PC's every Interrnet and desktop move.

As onerous as it sounds, there are a lot of good reasons for a company to keep track of worksations. For example, the most popular use of WinWhat-Where is for the quick assembly of billable hours from multiple project members. While companies looking to rein in unauthorized Web use should choose LittleBrother, ff your mission is simply to analyze network traffic, Win-WhatWhere is your choice.

Who's Naughty Little-Brother is far less ambitious than WinWhatWhere: its sole mission is to monitor and block unauthorized use of the Internet. It comes in two flavors-a \$295 version that monitors and reports on Internet, intranet, and company LAN traffic, and the \$495 LittleBrother Professional Edition, which also lets you block visits to certain Net sites, LittleBrother Professional includes a list of suspect site categories-including pornography and gaming-with free monthly updates available.

It's easy to add sites you find detrimental to productivity or block access for some employces but not others. LittleProther Professional is so flexible you can even block access to forbidden sites during business hours but throw open the playground gate lefore and after work and during lunch. Both versions of LittleProther spit out detailed text or graphical reports that



away on the Web? Find out With WinWhatWhere 97 (above) and Kansmen LittleBrother 1.2. WinWhatWhere can be configured to monitor every mouse click and key tap.

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measure Internet/intranet/ LAN use in terms of the most frequently visited sites and most frequent visitors.

Counting Keystrokes WinWhatWhere 97 doesn't just track employees' I-Way forays. This utility captures info about all the activity on a network. WinWhatWhere measures every keystroke on every LAN workstation if asked—even the cumulative inches each mouse travels.

However, WinWhatWhere lacks LittleBrother's Web siteblocking capability. It just takes notes on everything you and everyone else does and reports it to the designated head honcho. But on the upside, WinWhat-Where can help a network administrator decide where software updates should go and how to balance loads on network moderns and other hardware. It also provides an audit trail for PC security, so you can tell whether your workstation was used overnight and exactly what was done on it.

B. Pick everything you

C. The scrollable screen

gives you an account of

workstation activity.

want to track.

In the Red: In

sites

LittleBrother 1.2.

green or gray bars

indicate "productive"

It's hard to love a piece of tattleale software. But Kansmen LittleBrother 1.2 and WinWlatXWhere 97 have beigroles, especially if you happen to be the one paying for the Internet gaming techns. Go for LittleBrother if your needs are primarily monitoring, control, and ensorship. On the other hand, choose WinWhatWhere 97 for overall network asset management. MIKE HOGAN

FILEBOX

WinWhatWhere 97

Verdict: Manage your Net traffic—and assets.

Pros: Reports on every aspect of network resource usage, even down to exact keystrokes; helps optimize network traffic.

Cons: Obtuse interface; lacks the Web site—blocking features of LittleBrother 1.2.

Competition: Besides Kansmen LittleBrother 1.2, which can't match WinWhatWhere 97's network asset-management features, WinWhatWhere competes with higher-priced networkmanagement tools like Sequel Net Access Manager and Optimal Internet Monitor.

599 for single-user version, 5495 for ten-station network version, est, street prices WinWhatWhere (509) 585-9293 Reader Service No. 671

LittleBrother 1.2

entire company's Net forays.

Pros: Complete monitoring of all things Internet; can block certain sites at certain times or restrict access to specific workstations.

Cons: Ethernet only; lacks the network asset—management features of WinWhatWhere 97.

Competition: LittleBrother also competes with siteblocking software like Net Nanny and SafeSurf; both are initially less expensive but include subscription fees and are targeted at parents and educators who don't control network connections.

5295, 5495 for Professional Edition, est. street prices Kansmen Corp. (800) 200-9881, (408) 263-9881 Reader Service No. 672

Guide to the Ratings:

ARAAA Excellent

ARAA Good AA

Acceptable Acceptable

SPECIAL ADVERTISING SECTION

Wake up and smell the a new computing age has dawned



Nobody can afford to scrap their huge investments in existing information systems.



what's the answer?



s a quick way to publish and access information, there is nothing quite like the Internet. In just a formed the way most companies think about doing business, and for a few organizations, Internet-inspired change is already dramatically underway as this new and flexible channel to customers, business partners and suppliers opens wider and wider.

Like many new opportunities, Internet changes must be pursued with a new set of tools and techniques. The old ways simply arent' effective: just as you wouldn't travel an interstate highway in a Model T, neither can you expect to exploit the competitive opportunities of the information highway with the quickly aging proprietary computing platforms still in use today.

After all, the multiple platforms that currently populate corporate information systems infrastructures are pretty much entirely incompatible with each other – nothing fits together, so exchanging information between them remains very difficult and error-prone. These platforms are also resource-intensive and incredibly complex, which makes them costly to buy and maintain and prohibitively excensive to update or exand.

But, troublesome though they may be, nobody can afford to scrap their huge investments in existing information systems. It is not practicable to toss out entire databases of invaluable knowledge or retrain workers in new computing environments and techniques.



The answer is Java^m, an entirely new kind of cross-platform computing environment hat first can be placed on top of – and work with – your organization's existing systems and networks, and then later can slowly replace costiler, less efficient elements. The result? A rational, significantly less expensive information systems infrastructure where, finally, most everything does fit together and is easy to maintain, easy to grow and easy for even inexperienced desktop computer users to master.

Java uses the Internet, but Java is much more than just an Internet language. In fact, Java is a programming environment in its own right and is designed to be used in applications that venture far beyond the corporate desktop, even beyond handheld devices like personal digital assistants (PDAs) and into industrial devices, toys, cars, cellular phones, appliances – anything using a microprocessor or microcontroller.

Because it was designed from the outset as a cross-platform computing environment that exploits the openness and universality of Internet technologies, the Java computing platform makes it easy to create an Internet-based channel to customers,

SPECIAL ADVERTISING SECTION

So Java apps can run in any Java enabled web browser, like Netscape Navigator™ or Microsoft's Internet Explorer.

Keeping it simple. Meanwhile, JavaOS[™] stands in stark contrast to lumbering, traditional operating systems. JavaOS and the Java Virtual Machine can be stored at the client in flash ROM or can be booted from the network.

Standard, open protocols. Java relies on standard network protocols like TCP/IP (which is built in) but more sophisticated delient/server protocols can be used, too. The Java Database Connectivity (JDBC^w) protocol provides SQLoriented connectivity to databases. More complex, threetiered applications can be built using distributed objects with industry-standard COBA (Common Object Request Broker Architecture) protocols.

New kinds of clients. Java computing spans much more than traditional desktop environments. Java has been

THE SPAN OF JAVA: FROM PAGERS TO FAULT-TOLERANT SERVERS		
-		
-		
EMBEDDED	DESKTOP	ENTERPRISE
OLVICES	t DEGRETOR	
Cell Phones	PC's	Database
Pagers	NC's	Servers
PDA's	Workstations	Networking -
Palmtops	All Major OS's	Infrastructure
Thermostats		

licensed for use in "smart" telephones with built-in displays, PDA-like devices, set-top boxes, kiosks, point-of-sale devices, even home video game machines.

Unlike any other kind of computing environment, Java offers an architecture that leverages enterprise computing investments across all platforms. If you want to revitalize, not replace your legacy systems, you need Java. And if you want to exploit emerging opportunities in Internet-enabled commerce, Java is downright essential.

partners and suppliers. With Java, your organization can provide selective, secure access to key applications, so those you want – your employees, your customers, your partners – have a Java based window into the enterprise for delivery of goods, services and information.

VHAT

To understand Java and its implications, begin by think-

ing of Java as an applications development platform. Java is a portable, interpreted, high-performance, simple objectoriented programming language and runtime environment. Java computing puts object-oriented programming to breakthrough use: it enables network computing by downbreakthrough use: it enables network computing by downbreakthrough use; it enables network computing by downbreakthrough use; it enables network computing by downbreakthrough use; it enables network computing by downhand disk, sometimes they're stored only in DRAM. Shifting the center of client/server gravity Since Java applications normally reside on a server and are delivered to a client via standard network protocol only when needed, client data storage is centralized on servers, as is administration and configuration control, and desktop client

computers can become "thin" again. This sort of network-

efficiency of their information systems infrastructure.

Crossing platform barriers in a single bound How does this work across all those incompatible comput-

centric computing enables organizations to increase the cost-

ing platforms? The answer is the open, standards-based Java

Virtual Machine. Anywhere there's a Java VM, Java applets and applications can be dynamically downloaded and run.

Extending the enterprise with Java computing

Ultimately, Java is an enabling technology for a whole new kind of computing in which the network is central and most desktop clients can simply serve as interfaces to the network. Applications and processing power are distributed among many different types of computers in many different locations, and the network controls the flow of information among authorized users. Because they are Java applications, they are written only once, then run as is on just about any type of computer.



The impact of this network-centric approach on traditional computing environments is profound, because it preserves the entire system legacy, staving off obsolescence indefinitely. Existing systems and data interoperate easily with Java enabled computers, so you can build Java frontends onto your current systems and take advantage of the benefits of Java while protecting your investments in hardware, software and training.

Consider: for your specialized applications requiring local processing power, you can keep your highpowered desktop systems and add Java computing capabilities without incurring *any* hardware replacement or retraining costs.

What's more, you can add Java capabilities now to large numbers of

\$3

Customer service applications at British Telecom are being delivered with Java computing to a broader business and commercial customer base than traditional information technology permits.

your proprietary PC platforms and standalone applications, then gradually supplement them with low-cost, easy-to-administer network computers or replace them at your business convenience.

And when you're ready to take the next step toward web-based commerce, your foundation technology based on Java computing can be extended and expanded as more Java based hardware and software products continue to emerge.



Designed for the future

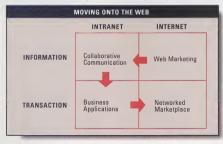
Java also opens up an entire new spectrum of opportunities on the Internet, the web and corporate intranets. Most organizations venture into the Internet and web-based technologies by degrees.

First comes web marketing - an

external website is established to inform customers and prospects about products and services. Next, in colloborative communication, internal websites protected from public access by firewalls form a core intranet system used to inform and educate employees.

Business applications follow, as web servers to gateway systems are installed, enabling web-based access to business-critical data. This use can even be transactional – examples include employee expense reporting, inventory control, decision support.

Finally, organizations will participate in a networked marketplace in which internal business applications are mature enough to be released for customer or supplier interactions through extranets or the Internet itself. At this point, corporate firewalls can be opened up for true electronic



commerce, such as online shopping and online banking.

The Java computing platform is the enabling technology supporting each of these steps, providing an easily accessible, low-risk means of establishing a web presence, a secure medium for internal and external information exchange and the foundation for true electronic commerce.

The future, long promised and long delayed, is here at last. On the pages that follow, we'll show you what Java means for enterprise computing, why Java makes business sense, and how you can start right now developing, deploying and managing Java computing in your organization.

Java in context: Starting with an intranet

With a little help from Internet technologies, Java computing can combine the best of both traditional mainframe computing and the more recent client/server paradigm.

Unlike the mainframes that preceded them, distributed client/server computing enables organizations to:

· Leverage existing IT resources,

 Redistribute digital information to the desktops of a broad spectrum of users via local and wide area networks,

• Use friendly graphical user interfaces (GUIs) to improve worker productivity and potentially access data in legacy mainframe systems,

 Achieve high desktop computing performance,

 Expand systems at comparatively low cost,

 Choose from large amounts of off-the-shelf software applications,

· Develop applications more quickly.

Alas, nothing comes for free: distributed client/server computing has drawbacks, too. And a couple of the major ones are starting to hurt many organizations' ability to

VHY 100% PURE JAVA™ MATTERS: IT'S MORE THAN JUST A LOGO

By the end of 1997, industry-watchers say, there will be something like 100 million Java enabled desktops. And by the beginning of the next millennium, there will be 100 million network computers at work.

Why? Mostly because Java based network computing is platform-independent. Unlike other offerings that tie developers to a single platform, Java unites many platforms with a common language. The result: organizations can afford to exploit new Internet- and web-inspired opportunities with Java "Write Once, Run Anywhere" "apability.

The danger of "captive" platforms

Since Java is an open architecture, anyone can use it. Today, Java is available on all major computing platforms and has been licensed for still others.

But Java platform-independence can be sustained only if everyone uses the same Java. Pure Java. In fact, we need a standard for 100% Pure JavaTM.

Why? Because contaminated Java loses its platform-independence and its abilities to ensure a secure computing environment. Which means that contaminated Java simply isn't Java at all. But some might still daim it's Java, even though it's a proprietary knock-off that can't do the lob.

There are any number of ways this can happen. Take Microsoft's ActiveX as an example. Whereas Java makes links to components in other computing models, ActiveX encopsulates components, which thereafter can run only on proprietary ActiveX platforms. When Java is encapsulated into ActiveX, its cross-platform attributes have been compromised.

The 100% Pure Java logo: It ensures the cross-platform compatibility of Java applications

Many believe that genuine platform-independent network computing depends on establishing and enforcing open, nonproprietary standards for the Java platform. Both end users and developers need assurance that programs written in the Java language will indeed run flawlessly on any Java certified platform or device.

The 100% Pure Java Initiative, supported by more than 100 vendors, uses a variety of testing certification, technical assistance, education and co-marketing programs to guarantee compatibility in the Java environment. Look for the 100% Pure Java logo on the products you buy to make sure that your organization's Java compatibility won't be contaminated or compromised.

What's it all about: 100% Pure Java defined

Only full compliance with the 100% Pure Java Initiative earns the 100% Pure Java logo. Here's what it takes:

 Written 100% in Java. The first and most obvious criterion for 100% Furc. Java compliance is that the software be coded entirely in the Java language. Although Java can resemble C or C++, pure Java code cannot include C or C++ code because the resulting applet or application wouldn't take advantage of Java cross-platform capabilities. With the Java Nirtual Machine, the Java platform provides a level of abstraction that hides the underlying operating system from the application; neither C nor C++ do this.

 No native method calls. Attempting to interface native code with Java code typically compromises several key Java benefits, most notably security. Those who mix Java and native method calls have no assurance that code will remain virus-free after download. And if a native method has a pointer overrun or tries to access unauthorized memory, the result is a general protection fault. Products that interface native code with Java code are not eligible for 100%

Pure Java certification unless the desired function is also implemented in 100% Pure Java and included with the application.

• Conforms to Java Core API specifications. The Java API forms a standard interface to components, applets and applications application development. 100% Pure Java applications must conform with both key components of the API: the Java Core API and the Java Standard Extension API. If a 100% Pure Java Standard Extension API.

http://java.sun.com.

•Bundles libraries or uses libraries included in the Java Reference Implementation. Libraries invoked by Java applications must also be 100% Pure Java or JDK" libraries to guarantee that the applet or application invoking them remains 100% Pure Java compilant. The Java Reference Implementation is available on the web at http://java.sunc.om/

•Passes certification test. A simple yet thorough test suite has been developed by Sun Microsystems, Inc. that will help ensure that certified products have all of the cross-platform attributes of a pure Java application. Each individual product that passes the 100% Pure Java test suite will be certified and become eligible to use the 100% Pure Java logo on packaging, advertising, websites and marketing materials. As part of the certification agreement, the software may be audit tested with updated versions of the test suite at any time.

100% Pure Java benefits everybody

Products that have achieved 100% Pure Java certification are written entirely in Java according to these requirements,

Continued on page S6





have been successfully tested for compliance using the 100% Pure Java test suite and have been submitted to an independent testing center for formal certification testing.

So when you see the 100% Pure Java logo, you know you'll get:

• Compatibility with all platforms, not just "Wintel," and not just the Mac. Users of 100% Pure Java products are secure in the knowledge that their applications are truly multi-platform.

 Higher-quality Java applets, applications and JavaBeans" component APIs. The 100% Pure Java Initiative cases the transition to Java based computing, an end-toend, secure network computing solution based on distributed Java applications and low-cost Java network devices. Greater satisfaction. With 100% Pure Java certification, it's easier to quickly recognize products that won't jeopardize your organization's cross-platform computing capabilities or the security of its transactions.

 Faster evolution of the Java platform. Clearly, the Java platform makes application development work easier. Java is a small, "knowable" system coupled with an increasingly comprehensive set of component APIs, so developers can build applications from shared, reusable objects.

The 100% Pure Java Initiative, supported by more than 100 independent computing vendors, defines an objective, consistent quality standard for Java software and publishing API specifications. Keep your future safe. Use only 100% Pure Java.

exploit competitive opportunities:

Distributed client/server systems carry high and still-growing desktop management costs, due chiefly to their dependence on expensive networked PCs – so-called "fat clients" – that too often run only "thin" applications, and,

□ A rigid application architecture limits the ways in which computers can add value when executing transactions, servicing customers, analyzing data and so on.

Java based shipping and tracking applications deployed into major customers' workplaces via network has already saved CSX \$6 million in application devel opment, distribution and upgrades.



The advent of network computing

What's the solution? A low-cost, low-administration network-access desktop that couples the flexibility of client/server systems with the centralized maintenance and administration of mainframes. This is network computing and what it offers is worth noting:

Centralized IT management,

☑ Low-cost, easy-to-replace desktops, ☑ Ability to instantly update applications on all network computers, thus eliminating versioning problems,

☑ Elimination of local administration of configuration files,

☑ Low desktop management cost,

Scalability, allowing a comparatively high ratio of network computers per server.



At the heart of this merger of computing paradigms is the notion of a "thin client," a stateless desktop device linked via network to one or more servers. Everything that constitutes a state – the operating system, applications, data, integrity, etc. – has been relocated from client to server, While this stateless, thin-client network computer is skinny in terms of desktop management costs, it's actually remarkably rich in functionality. That's because of the Internet and the nature of the Java language.

Standard, open Internet technologies and protocols form a universal networking capability which can be easily inserted – if it hasn't been already – into an organization's information systems infrastructure. This ability to access every computer means the recentralization of certain capabilities – such as desktop systems management – again makes economic sense.

Meanwhile, just what can be effectively recentralized depends on software techniques that emphasize modularity, reusability, reliability and ability to function in a network environment. This is called componentbased software and Java is its premiere embodiment; the idea is to construct applications by assembling reusable parts into new applications. Component-based software like Java consists of three elements:

 Components: software objects, either simple or complex, that include some program logic.

 Containers: objects used to assemble components and provide a context in which they interact.

• Scripting: the ability to initiate and direct interactions between components.

In Java based network computing, the favorite container is a web browser like Netscape Navigator or Hotkara²⁷, which includes Java container software, The Java Virtual Machine. Components can be loaded not just from a file sever but also from a web server located on a corporate intranet or somewhere on the Internet. And these components can contain much more than merely text or graphics files – Java components can carry executable code, so data can be downloaded along with the code required to work with that data.

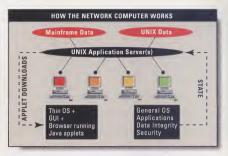


From applet to enterprise

These days, Java is used for much more than creating applets those small applications typically embedded in web pages and run from within a web browser. Increasingly, Java is going mission-critical and being used to create full, standalone applications. For instance, Cord is developing a version of its Office Suite, including WordPerfect, written completely in Java that will be able to run on all computer platforms that support Java.

Indeed, interest in Java is growing fast and some estimate that there are already 300,000 people programming in Java. It's not hard to see why. The Java platform gives developers a powerful object-oriented language without the complex, heavyweight object housekeeping required by other models. Its compact runtime framework is casy to include in a range of devices, from smartcards to kiosks. Designed from the outset to be network-aware, Java support for the Internet's TCP/IP protocol is built in.

Java applications easily adapt to changing environments, since users dynamically download code from anywhere on the network. Processing is neither centralized nor entirely localized – it's flexibly distributed depending on the requirements of the



job. Java applications are fast, because today's processors provide efficient virtual-machine execution. Just-in-time compiling and Java microprocessors can deliver even more performance, while Java builtin multithreading means highperforming graphical applications and GUI functions.

With Java runtime system managing memory and inspecting all code before it's downloaded, Java apps are robust and secure. Component-based Java is simple to learn and use and speeds application development and turnaround, thanks to code reuse, easier testing and rapid internet deployment.

The advantages of Java computing

It's worth taking a closer look at how organizations can expect to benefit from Java based network computing.



Platform-independent open computing

Deployment of consistent Java Virtual Machine platforms enables you to run any Java compliant application program across the enterprise. Because Java runs on the Windows, Macintosh and UNIX® platforms, it's possible to "Write Once, Run Arywhere", giving Java applications the world's largest user base.

This eliminates the need to port applications to separate, incompatible client environments and it overcomes the lack of availability of certain application features and functions on inherently limited platforms. Also, organizations are no longer trapped into having to deploy incompatible platform-dependent applications.



Less complex computing environment

Since all code, data and configuration information are stored and managed centrally, computing life is easier for everybody: applications, data and infrastructure resources can be managed from one place. This results in:

Dramatically lower costs of administration and ownership. One Fortume 500 company with 15,000 computing seats expects to save as much as \$100 million in hardware and software maintenance costs by switching from PCs to Java thin-client seats.

E Rapid development and deployment of new applications. "Write Once, Run Anywhere" Java reduces time spent on application development, testing and rollout, so there are more resources left for creating new added-value applications. Java developer productivity is two to five times greater than with traditional languages like C and C++, thanks to such Java capabilities as strong type checking, automatic memory management and exception handling. This sort of instant rollout of applications on an intranet website permits shorter, more iterative application development cycles, an ability to react oucket to bus and happier users.



Java addresses several vulnerabilities of current enterprise computing environments:

 Strong memory protection. Java applications and applets cannot gain



In traditional enterprise computing, a client machine is typically a PC that runs a highly complex operating system and uses much of its substantial supply of memory and local storage to house an assortment of resource-intensive applications, including e-mail and other network access software.



unauthorized memory access to read or change accounts because Java removes the possibility of either maliciously or inadvertently reading and/or corrupting memory locations outside boundaries of the program.

 Encryption and signatures. Java uses powerful encryption technology to verify that an applet came from an authorized source and has not been modified.

• Rules enforcement. Java objects and classes make it simple to represent corporate information entities, and the rules governing their use is embedded within the objects themselves – the result is that the introduction of ad hoc access and manipulation methods can be controlled.

 Runtime verification. Java runtime verification system inspects all code for viruses and tampering before running it, ensuring that all applications and applets downloaded to the client will not violate the integrity of the environment.



The Java language itself, meanwhile, encourages production of reliable, simple code. Its object and component orientation promotes re-use and library-building. Java also

These are "fat clients" and they're rather pricey. The total cost of owning a networked Microsoft Windows-based PC – including the original purchase price, software updates and upgrades, configuration assistance, technical troubleshooting, and other needs – adds up to nearly \$12,000 per year, according to the Gartner Group.

By comparison, the same Gartner Group research indicates that the kind of "thin client" that Java computing makes possible costs just \$2,500 per year. Part of that is the original pricetag: thin Java clients need less local storage, since all code, data and configuration information are stored and managed centrally.

But there's more to it than machine price. Up to 55% of a PC's total cost over a five-year period, reports Gartner, comes from software product updating. This task is hugely simplified by the centralized administration and management that's a hallmark of thin-client network computing.

So just how much can an organization save by shifting from fat clients to thin ones and adopting Java based computing?

Compare the cost of a 1,000-node environment, figuring the cost of thin Java clients at \$2,500 per year and fat clients at between \$10,000 per year (standard) and \$15,000 per year (custom).

100% fat-client PCs	\$10.00 million
90% Java network computers 10% fat-client PCs	\$ 3.75 million
Potential saving with Java	\$ 6.25 million

How quickly you decide to shift from your fat clients to Java network computing will go a long way toward determining how much of what you're now spending on traditional PC environments can be saved. promotes good software engineering practices, such as clearly separating interfaces from implementation and easily handling exceptions. And Java automatic memory management and lack of programmable memory management tools such as pointers eliminate one of the largest causes of programming errors.



Revitalization, not replacement

Java will save your legacy systems from obsolescence by layering on top of them a universal means of access and update. Since Java enabled browsers can display any HTML page, they can run forms-based HTML page, they can run forms-based HTML papilications. With web servers acting as gateways to legacy systems, HTML can be used as a way to publish information within and beyond your organization so the right people – employees, suppliers, even customers – can get the information they need when they need it.



Incremental implementation

With Java, you can make the shift to thin-client, network computing gradually, as your budget and your business require. Given that Java works perfectly well on fat clients, too, once you've installed Java enabled browsers all of your organization's desktops, migration to a network computing environment can be conducted in small, controlled steps without immediately discarding even a single computing platform or application.



Easier adoption of online technologies

Whether your organization is just beginning to move onto the Internet and establish a presence on the World Wide Web or you're marching toward full-fledded web commerce. Java Balance sheet applications at First Union National Bank run under 3270 emulation on thinclient JavaStation™ network computers, to be followed by Java applications that access databases on mainframes and servers. Result: Total cost of computing has dropped from \$4,000-\$5,000 per seat per year to well under \$1,000.

makes it all easier, more secure, less expensive and more scalable and flexible for future growth,

What, then, can Java mean for your organization? Quite simply, the end of information system incompatibilities and isolation. And an unparalleled ability to adapt computing systems to changing conditions, because, finally, applications can be sent to users wherever they are, no matter what desktop computer or network computer they're using.

You've been hearing these promises for years, of course. So consider, just one more time, what it means to have such promises fulfilled. It means a minnovative yet safe choice that fully delivers on the promise of enterpise compatibility and connectivity – with zero client administration cost. And there are many Java choices indeed.

The need for 100% Pure Java

Java platform-independence works as long as vendors continue using the same Java and resist the urge to add non-uniform features that destroy its portability.

This is always a risk. In Microsoft's ActiveX component software strategy, for instance, Java applets are swallowed whole (encapsulation) and are no longer able run on anything but Microsoft's proprietary Win32 platform.

In fact, the risk of contaminated Java is strong enough that more than 100 vendors, led by Sun Microsystems, Inc. have launched the 100% Pure Java Initiative that defines an objective, consistent quality standard for Java software and publishing API specifications.

Only products that have achieved 100% Pure Java certification can exhibit the 100% Pure Java logo. The logo's presence on software and hardware products Indicates its compatibility with all other 100% Pure Java products. So Java buyers get better products and more effective network computing environments.

Java's many facets

A program written in Java can run wherever a Java platform is present, regardless of the underlying proprietary platform, without needing to be compiled for any particular underlying platform.

Each underlying platform has its own implementation of the Java Vittual Machine, but since there's only one Java Virtual Machine specification, the Java platform acts as a standard, uniform programming interface to applets and applications on any hardware.

An end-to-end solution encompassing hardware, software, developKey business applications at FedEx are being browserenabled with JavaStations that replace tens of thousands of terminals.

ment tools, management and administration tools, security and services, Java takes many forms.



The first system software specifically designed to execute Java poperating system that implements the Java Base Platform is being widely ported to microprocessors, including the JavaChip[®] family.

JavaOS is written in Java

and includes the Java Virtual Machine and class libraries, plus the system software necessary to run them without a full-blown operating system. Unlike other operating systems, JavaOS requires no filesystem, no virtual memory subsystem, no multiple address spaces and no support for multiple programming languages.



The minimum that must be present for running Java powered applets and applications on network computers, desktop computers and workstations is described as the Java Base Platform. It contains the Java Virtual Machine



As more and more businesses come to understand the important role the Internet already plays in their competitive futures, a critical question arises: Java or Microsoft's ActiveX?

Both are object-oriented component software strategies - they build applications from reusable parts by plugging either just-in-time compiled (faster) or interpreted in any container with the Java Virtual Machine software installed (slower); but ActiveX controls are binaries and typically require Intel-based hardware that supports the Win32 interface – i.e., Windows 95 or Windows/NT.

Of security and sandboxes

For computing security, users trust their servers not to deliver malicious components. What else can be done? A couple of things: sandboxing, which constrains downloaded components from executing functions that can damage the local system; and digitally signing each downloaded component, so signatures can be checked by the local system.

Beside trusting servers, Java supports sandboxing and Java developers are at owr kn on digital signing of downloadable components. ActiveX offers digital signing, too, but since ActiveX controls have full access to a computer's operating system, files and applications, sandboxing is not an option, and users still could end up with ActiveX controls that behave like viruses or a cri maliciously.

 - they ound applications from reusal software components into some kind of container – but the capabilities they can each bring to an organization differ dramatically.

Multi-lingual vs. multi-platform

Like Java applets, ActiveX controls are self-contained pieces of functionality that run inside some kind of container. But unlike Java applets, ActiveX controls can be written in various languages (C++ is most common).

The tradeoff comes at the other end: Java applets are downloaded in a machine-independent format and

COMPARING JAVA AND ACTIVEX											
JAV PRO Works across many types of platform Components are reusable Programs written once can be run on many diverse machines Users safe from	A Source of the programming Second for the programming		TIVEX CON Runs only in Windows Large components (ActiveX controls) Much code is not reusable Users could download viruses, rogue code								
Fast-growing support from software vendors	enable developers to work in Java without knowledge of the Java programming language										

and a minimal API set – known as the Java Base API or the Java Applet API – to run basic applets and applications. Developers writing to this minimum set can feel secure that their Java programs will run anywhere without need for additional class libraries.



The Java Virtual Machine

A "soft" machine that can be implemented in either hardware or software, the Java Vittual Machine is an abstract computer designed to reside atop existing processors. Its porting interface and adapters enable it to be easily ported to new operating systems without being completely rewritten.



Java APIs

The Java platform has been extended beyond the Java Core API with the Java Standard Extension API, which is a published, uniform, open standard available to anyone wishing to implement an extension. As Java APIs continue to proliferate, some of the Standard Extension API will migrate to the Core API. Together, these form a standard interface to applets and applications, and they're the essential framework for Java application development.

JavaBeans²⁴ enhance the Java platform still further by facilitating richer, more dynamic interactions between components. JavaBeans can be implemented in web browsers or as standalone applications by layering them on top of existing environments. The actual implementation is hidden by the JavaBeans APIs, so developers can write application components without regard to the platform on which the component will eventually run, since the code is portable among al Java enable duplatforms.

The JavaBeans specification defines

a set of standard, device- and operating system-independent component software APIs for the Java Platform. Designed by a partnership of industry leaders, JavaBeans is the ideal choice for developing or assembling networkaware solutions for heterogeneous hardware and operating system environments – within the enterprise or across the Internet.

A JavaBeans component can be anything from a GUI widget to a robust component to a full-scale application. Because it'll run on any platform with a Java Virtual Machine, a JavaBeans component can be reused everywhere, incorporated into multiple solutions without the need to rewrite a single line of code.

JavaBeans component software integrates seamlessly with other industry component models, such as ActiveX, with no additional development required. And this interoperability is free, via a Sun Microsystemsdeveloped ActiveX control called the

JavaBeans Bridge for ActiveX, which lets JavaBeans run in legacy ActiveX containers like Microsoft Office and Visual Basic.

A wide range of JavaBeans resources and rapid application development tools are already available. You can leverage a growing array of outstanding tools for the enterprise, the web and commercial development, including IBM's AppletAuthor and VisualAge for Java, Powersoft's Jato,

Java™ Workshop™ and Project Studio from Sun Microsystems, Inc. JBuilder from Borland, Visual Cafe from Symantec, and Mojo from Penumbra Software.



As professional programming languages go, Java is simple, flexible and powerful. Source code written in Java can call an assortment of APIs. Java enables developers to do several kinds of things critical to enterprise computing and encourages catching bugs early during design and development. Its multithreading capabilities will enable a new generation of concurrent applications and services.



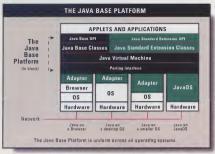
The first major application created using the Java language and its runtime system, the HotJava Browser is a highly-customizable, extensible web browser. Users can easily modify the user interface to provide their own look and feel.

HotJava Browser accesses applications in a new way: software migrates

TO EMBED IN OPERATING SYSTEMS									
Windows	Microsoft Corp. IBM Corp.	Windows 95, NT Windows 3.1							
Macintosh	Apple Computer	Mac OS							
0 \$/2	0 S/2								
UNIX	Hewlett-Packard Hitachi Ltd. IBM Corp. Silicon Graphics SunSoft, Sun Microsystems The Santa Cruz Operation Tandem Computers	HPUX Hitachi OS AIX Irix Solaris™ UnixWare Non-Stop Kernel							
Network OS	Novell	NetWare 4.0							
Mainframe OS	IBM Corp.	MVS							

transparently across the network as it's needed. No longer does software have to be "installed." Although HotJava Browser is very small, since all of the protocol and data handlers are brought

COMPANIES LICENSING THE JAVA BASE PLATFORM TO EMBED IN OPERATING SYSTEMS



in from the outside, its ability to seamlessly deliver dynamic content. dynamic data types and dynamic protocols means content creators now have an entirely new tool to



Java Development Kit

use in the fast-emerging worlds of

electronic commerce and education.

You can develop both applets to run in browsers supporting JDK 1.1 (such as HotJava and Netscape Navigator and Microsoft Internet Explorer) as well as standalone Java applications with JDK 1.1, which now features lavaBeans database connectivity and enhancements to security. networking and performance.

JDK 1.1 includes a runtime version with interpreter and core classes. tools (including source files, compiler, debugger and much more) documentation and demos



Sun Microsystems' new line of Java enabled network computers,

JavaStation systems, are optimized for Java computing and can serve as both interfaces and nodes in a Java enabled network, JavaStations have significant local processing power and take advantage of the network for all storage requirements, minimizing cost and maximizing network resources



JavaChip family

Java processors offer significant advantages over general-purpose microprocessors in terms of performance, power and cost optimization:

 picoJava[™] is designed to be the industry's best price/performance silicon fabrication supporting the Java Virtual Machine specification and will be used in cell phones, printers and other business and consumer products.

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UltraJava[™] leverages advanced

SPECIAL ADVERTISING SECTION

graphics circuits and features nextgeneration enhancements, making it an excellent solution for advanced 3-D graphics and other multimediaintensive applications,



Of partnership and value added

In addition to Java development efforts by Sun Microsystems, Inc. and JavaSoft, many other vendors have grasped the breakthrough significance of Java and are hard at work on Java enabled products that exploit the competitive advantages of web-based network computing and electronic commerce. The list of Java committed vendors is long, distinguished and aettina longer.

Java computing with 100% Pure Java opens up a whole new spectrum of opportunities and possibilities for your company. It's a true breakthrough in technology that enables your business to create breakaway success strategies.

Network computing is here, solving some of the most challenging problems that enterprises face. A complete, end-to-end network computing solution, Java computing is more than a single breakthrough, it's a series of innovations that carry the future of enterprise computing.

Now is the time to carefully consider the possibilities and opportunities that Java computing opens up for your organization.



For more infarmatian abaut Sun Microsystems, Inc. JavaSaft or the 100% Pure Java Initiative, please visit our website at http://java.sun.com ar http://www.javasaft.com or call 1-800-PURE JAVA.

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The MMX-Files

BY RON WHITE

MMX—another of those mysterious computer acronyms—is, of course, Intel's latest attempt to prove the notion that no matter when you buy a PC, in six months it's going to be as outdated as a mood ring. Conspiracy? Probably not, but right now PC makers

> are jumping on the MMX bandwagon like it's the last stage out of Hell City. By Christmas you'll have to look hard to find a new PC that doesn't have the Pentium MMX chip under its hide. And really, that's good. You may hear some bad-mouthing about how inelegant it is of MMX to raid the floatingpoint coprocessor's transistors. That's mostly unfounded wirehead talk. I've seen MMX in action. It's here to stay, and you should be happy it is.

G-NOME 00000

You don't get to toggle MMX on and off in G-Nome, but you won't have time to anyway in this heads-up game. G-Nome combines mechanical warfare with 3-D combat, battlefield strategy, and multiplayer capability, and the result is greater than the sum of ... uh, whatever. I ran G-Nome on two 3-D-accelerated PCs, one MMX and one not. The non-MMX version was fine-until I ran the MMX edition. Then using the conventional version was like trudging through quicksand. Either way it's a great game with some cool touches. If your mechanical warrior gets toasted, you jump out and battle the monsters on foot. Plus, the enemy has artificial intelligence that matches your most ingenious team play. G-Nome changes the ground rules for mech games.

G-Nome / 7th Level / (800) 884-8863, (972) 498-8100 / \$50 est. street price / Reader Service No. 677



MM Mechs: Fight fast-paced robot wars in G-Nome.



INDEPENDENCE DAY: THE GAME 0000

Forget Jeff Goldblum, You don't have to be a nerd with a Power-Book to fight extraterrestrial invaders, All you need is this CD and . . . wait a minute. That's wrong. You do need to be a computer nerd to fight extraterrestrials, but with Independence Day: The Game, you can be a nerd with a desktop MMX PC fighting extraterrestrial invaders. This single/multiplayer game (which also runs on non-MMX systems) is Fury with a movie tie-in. It also shows that technology and Hollywood don't necessarily make for great computer games. The MMX effect is most evident in a booming sound track that will finally justify those Bose speakers you added to your PC. There are more subtle effects in the visual details. And I'm not saying I didn't spend more time battling aliens than I should have for someone behind on deadline. But there are no great strides here, no paradigm shift. (Sorry.)

Independence Day: The Game / Fox Interactive / (970) 522-5369 / 550 est. street price / Reader Service No. 679

POD 00000

Anyone who buys an MMX PC these days is likely to get a copy of POD. This racing game is a favorite bundle to show off MMX for video, speed, and sound. (To see what POD is like without MMX, download the shareware Pentium

Ratines: 00000 The Truth. 0000 Bigfoot encounter. 000 Alien Autopsy film. 00 Men in black. O Implant in your neck.

REBEL MOON RISING

To see for yourself what a difference MMX technology makes, surf to www.fenriswolf.com and download a demo copy of Rebel Moon Rising. After you have it running and you've played with the guns and jet pack, type in this: fwbarney. The numbers that appear in the upper-right corner of the screen tell you the current frame rate, using MMX. If you want to see how the game performs without MMX, type in fwjack and watch the frame rate drop dramatically. (Type fwjack to get back to MMX play.) But you don't need the numbers. Without MMX, the game is jerky and halting. With MMX, the action and the background movement are as smooth as a Bill Clinton alibi. As if MMX weren't cool enough, Rebel Moon Rising uses speech recognition. If you're battling in a multiplayer version, you can shout commands that only your teammates hear, or threats that only enemy players receive. The game itself is a must-have, with or without MMX. But MMX gives you the full monster-bashing experience.

Rebel Moon Rising / GT Interactive Software / (800) 610-4847, (212) 726-6500 / \$50 est. street price / Reader Service No. 676

WWW.PCCOMPUTING.COM

CD-RONWhite



Green Flag: Put the pedal to the MMX metal in POD

120MHz version at www.ubisoft.com.) I'm not usually a fan of racing games because the cars are impossible to control. And even if you keep the car on the highway, it's just driving. But thanks to MMX, POD responds instantly and uses Dolby Surround Sound, which lets you know, for example, when another car comes up behind you. I couldn't test that, though, because I never got ahead of anyone, A real 3-D environment helps alleviate the boredom of the road. If you want to drive the wrong way, you can. You also get a selection of racetracks and wicked racers, and powerful networking features. My only complaint: no guns.

POD / UbiSoft Entertainment / (800) 824-7638. (415) 547-4000 / \$50 est. street price / Reader Service No. 678

ERASER TURNABOUT At least Independence Day is a rip of a great game and a decent science-fiction flick. Eraser Turnabout owes allegiance to a Schwarzenegger flop and computer games that were new on an Atari 400, Even MMX can't rescue it. The idea is that you're an "craser," and your job consists entirely of solving puzzles, shooting bad guys who pop up in windows, and taking wholly pointless psychological tests. The game hypes its use of MMX video and photographic images, but the graphics are total vawns. Add to this the tectonically slow responses to your actions, and I can't remember when a new technology has been done such a disservice. I doublechecked to make sure I wasn't using the non-MMX version. I wasn't. This one is just a bomb.

Eraser Turnabout / Imagination Pilots / (412) 787-8890 ext. 2188 / \$40 est. street price / Reader Service No. 680

THE TIMETABLES OF **TECHNOLOGY**

Aw, now this is jist plain sad, I was looking forward to this CD because it has real potential. Instead, MMX, the latest in technology, has been used to create the latest in confusing, awkward interfaces. MMX lets you fly through a 3-D timetable to find a significant moment in time. Sounds like fun, but it's harder to maneuver than Flight Simulator. Individual moments are as pointless and out of context as "single-backed points and burins characterize the Gravellian tool assemblage found throughout most of Europe circa 26,000 BC." And there's no photo to show what that means. Even when the CD tries to be accessible with some animation, there's still something off-putting and stuffy about the presentation. Too bad.

The Timetables of Technology / Byron Preiss Multimedia / (800) 945-3155, (212) 989-6252 / S30 est. street price / Reader Service No, 682



SPACE STATION SIMULATOR 0000

Are kids today still fascinated by space flight, or is it just we boomers who grew up during the heyday of Sputnik? If would-be space cadets still daydream, Space Station Simulator is the stuff of their imagination. Based on actual space-station modules, the CD uses MMX to let you spin and turn the modules through three dimensions as easily as a top. Better still, you can link the modules together to create your own Rube Goldberg International Space Station. Then tour the inside of your construction or take a space walk outside it. If you're a kid dreaming of becoming an astronautor a middle-aged couch potato whose dreams of space travel are blocked by a



Up, Up, and Away: Take flight with Space Station Simulator.

waistline that'd never get through the pod bay doors-this is as close to the stars as you may ever get.

Space Station Simulator / Maris Multimedia / (800) 336-2947, (415) 492-2819 / \$35 est, street price / Reader Service No. 681



Head Games: Get inside your head with MMX in Ultimate Human Body.

THE ULTIMATE HUMAN BODY 2.0 0000

In The Ultimate Human Body 2.0, MMX adds some moderate punch to an already super CD. The Ultimate Human Body is still a highly visual explanation of how the body works. The MMX shows up in 3-D cutaways that you can zoom in on, twist, and rotate. Motion under the MMX influence is smooth and fluid, what you'd expect on a costly graphics workstation. The Ultimate Human Body demonstrates that MMX itself doesn't make for a great CD, but it makes a great CD better still.

The Ultimate Human Body 2.0 / DK Multimedia / (800) 356-6575. (212) 213-4800 / \$40 est. street price / Reader Service No. 683



VISUAL HOME 00000

It's a nifty idea—a CD program that lets you remodel your home onscreen before you commit to the real thing. Problem is, in the original version (see CD-RON, March, page 106) you could build a second floor faster than you could do a virtual-reality walkthrough, unless in your reality everyone moves slower than the speed of sludge. MMX helps bring your VR kitchen tour into real-time movement, but just barely. Still, it's a significant improvement. If you're into virtual remodeling, you'll want a program as good as Visual Home and you'll want the MMX version.

Visual Home / Books That Work / (800) 242-4546, (415) 326-4280 / \$40 est. street price / Reader Service No. 684

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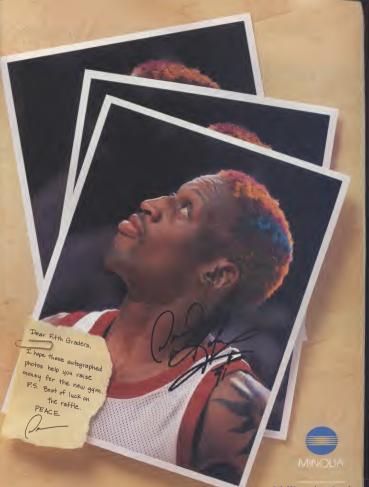
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That's what Seanix USA is all about! Over 10 years ago, an inspirational moment, coupled with a few dynamic ideas, became the basis for a company devoted to building quality PC products to serve the technology needs of customers for a lifetime. Consequently, Seanix has become the most reliable manufacturer of computer systems.

If you haven't heard of Seanix, then sit up and take notice. Soon you'll join the ranks of customers who recognize Seanix as the company that's setting new PC industry standards. Seanix USA has formed a partnership with Seanix Technology of Vancouver, British Columbia to bring US customers the same unparalleled quality and leading-edge technology that Canadian customers have enjoyed for over 10 years.

Our mission is to provide total customer-driven quality that exceeds customer expectations and sets

new standards of excellence. This is a paradigm shift in the PC industry and Seanix is leading the charge. We're doing it by providing stateof-the-art computers and integration, and the industry's highest quality control standards. What's vertical integration? It means we very closely integrate the many different levels of design and manufacturing together, allowing us to implement our quality-focused



paradigm. Our in-house research and development department is integrated with our manufacturing facility. We research, develop, design, engineer and manufacture superior-quality mother boards and video boards, and we custom build all our systems. This integrated approach not only provides the very best environment for quality control but allows us to integrate solutions for the future, providing customer upgradability, and cost savings.

Our approaches to future integration are known as our "Total Cost of Ownership" (TCO) solutions. At Seanix we're committed to providing stable products, that fulfill immediate user interface needs, with total usage in mind. To explain, let's apply the consumer electronics scenario to the PC industry. When was the last time you called 1-800 tech support, and were placed on hold indefinitely, to talk to someone regarding faulty stereo equipment? Probably never, because the consumer electronics industry has excellent quality standards, and builds systems to last, making them adaptable to new technology. At Seanix we're out to make this same quality scenario part of the PC user experience. In fact we've already implemented a TCO solution by integrating ethernet on board in the TCO line. And in the future, we'll do the same with SCSI, sound, and video options. Our TCO lines also incorporate Pentium[®] and Pentium[®] Pro processors with applications bundles, making them adaptable to future needs. And at the same time we're increasing the efficiency of computing. Of course the same quality standards and advanced technology have been integrated into the Seanix Consumer Series too, including a first

in the industry 56K modem standard. making them a technology, price and performance leader

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1,001 Best Downloads: Internet

Internet

Browsers

Bohemian Net Get good looks and peace of mind with this secure BBS's fully customizable graphical interface.

HotJava Start with a secure, platformindependent base for your Java apps.

Microsoft Internet Explorer 3.01 The latest version includes ActiveMovie and HTML layout control; and supports frames, animated GIFs, JavaScript, and VBScript.

NCSA Mosaic 3.0 The original Web browser now lets you surf with a multipane, customizable view.

Netscape Navigator 3.0 The current standard for this popular, full-featured browser includes HTML-editing.

Netscape Navigator 4.0 Netscape's newest version is now part of the Communicator Internet suite.

Opera Browse without a mouse, thanks to Opera's keyboard-activated interface.

Surf Touch Why point and click when you can just touch the screen to tell your browser where to go?

Tango A world-class browser that displays Web pages authored in more than 90 languages.

WebSurfer Across-platform browser that includes plug-in support and offline viewing.

Browser Plug-ins

Crescendo Plug-in Listen to sound files as you browse and see if music can tame the savage Web.

CyberSpell No more embarrassing e-mail typos with this Navigator plug-in.

Director 6.0 Plug-in Lights, camera, action! This 32-bit plug-in plays back Macromedia Director files.

Enliven Viewer Watch feature-length interactive movies with this plug-in for ActiveX or Navigator.

FutureSplash Player View streaming vector-based graphics and animations using your Web browser.

mBed Plugin An essential Navigator plug-in that lets you view mBedlets (interactive interfaces) in Web pages. NetRadio Tune in to Internet radio.

Neuron for Netscape All you need to run Asymetrix ToolBook apps via the Net or any TCP/IP network.

PointPlus Play back Microsoft PowerPoint presentations on the Web.

QuickTime Plug-in Turns your PC into a movie theater.

RealAudio Hear audio files on the Web with the classic sound plug-in.

Sizzler for Netscape Nope, not a steakhouse, but a plug-in that lets you create and display animation and sounds.

VOO Live Player Watch real-time audio and video files over the Net.

Communication Tools

Comic Chat Choose an animated character and type a message to your chat group—the text appears as a bubble above the head of your character

CU-SeeMe Save that travel budget by videoconferencing over the Internet with this premier application.

ICQ Who's online? ICQ tells you, then lets you contact them.

Internet Conference Professional Share Web images, documents, pictures, or ideas over the Net or any TCP/IP network with this suite of collaboration tools.

Internet Phone Slash your longdistance bills by talking over the Net.

Internet Video Phone Add pictures to your video phone calls.

Microsoft NetMeeting The best Internet collaboration tool out there.

mIRC 32-bit Simplifies and speeds an Internet Relay Chat (IRC) session. Great for both new and experienced users.

OnLive Traveler Explore 3-D worlds as a customizable avatar and interact with other avatars.

Powwow Invite up to six of your friends to chat, transfer files, and surf with you in a pack.

VOOPhone Internet See eye-to-eye with a video camera and this app.

E-mail

@loh@ Liven up even the most boring e-mail with animation and sound.

Byelines Create an e-mail or newsgroup signature file of your very own.

CyberCreek Mail Express '97 Boost e-mail transfer with this speedy client.

Eudora Light 3.01 Take control of your e-mail with this popular, free app.

Eudora Pro 3.0.1 demo Try out the fullpower version of the popular app.

Internet Mail and News Beef up Internet Explorer with Microsoft's free e-mail and newsreader app.

ivMail Voice Mail Why type messages when you can dictate them?

Pegasus Mail 2.53 An Internet favorite! Tricky to use, but what a payoff.

Transoft's Mail Control E-mail and voice mail in one.

News Gathering

BackWeb Delivers personalized news, entertainment, and software to your PC.

Downtown Get the latest information from your favorite sites.

Free Agent News Reader Keep up with your favorite newsgroups—offline.

Gravity Stay in touch with more than 15,000 newsgroups to choose from.

MSNBC News Alert Runs quietly in the background, then alerts you to the breaking stories that interest you.

NewsMonger Send it out to search Usenet, then wait for e-mail notification.

Smart News Reader Get the score on Usenet articles with this handy rating app. WinVN Newsreader Easily navigate

between newsgroups and articles.

WorldFlash NewsTicker Get personalized stock quotes and news in a separate window while you surf the Web.

Offline Web Browsing

Folio Web Retriever Tell it what you want and it delivers.

Go-Get-It Fast and reliable program does keyword searches while you're offline and stores results for you to grab later.

Monitor Tells you when your favorite Web sites are down. NavRoad A small, powerful offline browser that doesn't require Winsock DLL.

NearSite Grabs the Web pages you like so you can browse them at your leisure.

NetAttaché Put this data-filtering agent on your server so everyone can use it.

NetAttaché Light The slimmed-down version for your desktop.

SuperLister Keeps you up-to-date on FTP files on your favorite servers.

Miscellaneous Internet

CuteFTP All the benefits of FTP without the need for complicated protocol details.

fpArchie Includes a built-in FTP client to grab files as you locate them.

FTP Explorer You'll swear it's Windows Explorer, except it's an FTP client, too.

FTP Icon Connection Take a shortcut to your favorite FTP sites.

FTPMap 97 Drag and drop files to your FTP server.

Gulliver's Guardian Everything you need for your Web travels: a browser, an e-mail client, and a newsreader.

NetLoad An Internet housekeeper! Uploads new and updated files, removes old ones, and rebuilds directories.

Best of the Net

BROWSER PLUG-INS Live30 Enter a 3-D VRML workd.

COMMUNICATION TOOLS

OnLive Talker Forget text chat; now you can socialize on the Web with your own voice. Visual IRC No more reading between the lines with IRC uidecoerformation

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E-mail Reader Hear your e-mail read back to you over the phone.

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PointCast Network This classic Web broadcaster keeps you informed about news, sports, entertainment, weather, and more.



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PC Magazine, November 5, 1990

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BYTE Magazine, November, 1996

46...for the small office or home, the attraction is clear: durable, high-quality color printing and high-resolution scanning at an affordable price. 39

Windows Sources, December, 1996

44...the MD-4000 output quality was remarkable. We found deep, rich blacks and well-saturated, vibrant colors...we even spilled water on them, but the inks remained waterfast. **29**

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Web Publishing

Intranet

ABC QuickSilver Use it with ABC Graphics Suite to create images.

AlphaConnect Pro Search for and snag intranet data and convert it to a format your desktop apps can read.

Copyright and Netiquette Primer Install this training resource on your intranet to keep employees up-to-date on copyright issues.

CyberSearch This speedy utility helps you locate files and information on your intranet, hard drive, or the Internet.

Emulive Pro Deliver images from your video-capture card right to your intranet.

FootPrints Manage user inquines and maintain change requests and bug reports with this help-desk system.

IntraBuilder This visual JavaScript tool set lets you build and maintain dynamic, data-driven Web apps.

Intranet Database Assistant Publish database information to an intranet with ease. No scripting required!

IntraPower Suite Inject your intranet with Java power, courtesy of this collection of ready-to-use apps.

List2HTM Publish custom-designed company phone directories and other lists.

SurfinGate Fortify your intranet against the Java applet invasion with this corporate firewall.

ToolBelt Publisher for Win95 Tailormake a Web site for your company's intranet with this powerful publisher.

TrudgerLite Cut down on pointless waiting. Browse the Web offline from your intranet with this multiplatform agent.

WebDesigner This graphical editor lets you design professional-looking intranet Web pages.

Java

Animix Create your own animated Java applets with this drawing tool.

AppletAuthor A robust Java appletauthoring utility that lets you work with images, text, audio, and animation. Applet Widget Kit Build Java applets without writing a single line of code.

Avalava Integrates the components of Sun Microsystems' and Microsoft's software development kits (SDKs) in an easy-to-understand Windows interface.

Banner Show Control the rotation of your banner graphics with a JavaScriptbased HTML file.

Bongo Avisual interface-builder for Java.

CoollavaBar A flexible toolbar construction kit that lets you add interactive navigation bars to Web pages.

ED for Windows Autocorrect feature lets you know instantly if there's a flaw in your Java or HTML 3.0 code.

JAST Set up Java applets with ease.

Java Developers Kit Play by the rules: Write applets that conform to the application program interface (API) for the Java programming language.

Java-Godfather Don't wade into Java/JavaBeans programming without this complete documentation.

Javelin Pro View Java classes as active objects onscreen; move them by adding or renaming fields.

Powersoft Jato A Java tool set for building platform-independent business applications.

W3e Java Blade Whip up some lively applets with this tool, which includes Java Applet Compiler IDE.

Page Creation Tools

1-4-All HTML Editor Join the crowd and build Web pages with this handy editor.

AdSorb HTML Editor Get to work with this HTML editor that supports more than 60 coding tags.

Alchemy All the tools you need for plug-in development, site design, testing, and publishing on the Web.

AOLPress Browse and edit Web pages in the same window.

Arachnophilia HTML editor supports six browsers, plus a drag-and-drop option. Backstage Internet Studio 2 Enterprise Edition A visual tool for building database-powered Web sites.

Claris Homepage A friendly page designer for basic needs.

CMed Toolbars for all HTML elements, plus support for Latin symbols.

CoffeeCup HTML Editor ++ Get more than 50 animated GIFs and 10 JavaScript code strings.

Cold Fusion Lets you liven things up with dynamic pages.

Enhanced HTML 97 A customizable HTML editor featuring multiple dropdown menus, stats, and anchors.

Equitrac's Professional Internet Client For tracking and managing Net usage.

FrameGang Takes the pain out of creating frame-enhanced Web pages.

Frame-It Generate frame-based Web pages by pointing and clicking.

Gypsy A speedy 32-bit editor made for more experienced Web-page designers.

Horizon Web Text Fast-loading text editor with a clean interface.

HotDog Professional 3 The perfect tool for building large Web sites.

HTML Builder True to its name.

HTMLed Yet another HTML editor to take for a test drive.

HTML Handler So easy to use, you'll

Best of the Net

AVAL

Liquid Motion Pro A drag-and-drop authoring tool for Java. You never knew programming could be this easy.

PAGE CREATION TOOLS

HomeSite A fast and flexible HTML editor that includes color coding, multiple undos, an image thumbnail viewer, and a Microsoft Internet Explorer-style directory.

NetObjects Fusion Design a Web site that looks like (you paid) a million bucks. Automate site-building functions and get professional-quality design with this powerhouse.

SERVER TOOLS

Castanet Tuner What you need to be on the receiving end of Castanet Transmitter updates for keeping software and content current.

WEB GRAPHIC TOOLS

PhotoImpact GIF Animator It's as easy as drag and drop with this 32-bit GIF-animation composition tool.



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forget you're coding in HTML.

HTMLpad Pro This editor is flexible. Configure it to be a simple text editor or a serious HTML development tool.

JMK HTML Author A complete HTML editor with easy-to-use forms.

Mortar Hold your site together with this customizable editor.

Picasso Create HTML templates from scratch.

pop!site Build a home page or an entire Web site with this plain-text-to-HTML tool.

Quantum Web Editor HTML made easy with shortcuts, toolbars, and pull-down menus. Supports ten external browsers.

Spider Edit Professional Wizards help you create personal and corporate Web pages and guest books.

SpiderPad Create a Web page quickly with this visual table, form, frame, and style editor.

WebEtch Edit at the HTML tag level to maintain control over your pages.

Web Media Publisher Create multifile search and replace functions, userdefined buttons, and support for Java applets and Shockwave.

WebTamer This handy suite includes speed browsing, scheduled downloading, offline reading, and more.

Web Weaver Easy-does-it frames, forms, and tables.

1,001 Best Downloads: Web Publishing and Applications

Server Tools

ADNET Serve more ads to better serve your advertisers: Load a new advertisement at timed intervals, not just at every visit.

CamShot WebCam HTTP Server Mount your own Web cam! You know you want to.

Castanet Transmitter Try out this highend tool for keeping your software and content up-to-date.

DNS Workshop Fast and efficient conversion between IP addresses and Internet host names.

Hit List Enterprise Web-site analysis for high-traffic sites. Includes 20 ready-torun reports.

Hit List Pro How did they get to your site? Find the answer with these 17 reports.

Hit List Standard Edition If you don't want as much information, get what you need from these 11 reports.

HTMLEx Top off your pages with counters and greeting messages.

NetIntellect Generate straightforward site reports that show statistical, geographic, and marketing trends.

Personal Web Server Designed for easy installation and management.

ServerTrak Keep tabs on your server with this continuous monitoring application.

Spaghetti Proxy and Gateway Server Get the Internet delivered to your LAN via TCP/IP using a single connection.

The Ultimate Guestbook Track who's visiting you in cyberspace.

WebDisk A personal server for your computer; let others log into your system via the Web.

WebTrak Site-analysis reports you can view with your Web browser.

WebTrends Analyze your server's logsor log files created by any Web server.

WinDownload Maximize bandwidth on any size pipe.

VRML

Cosmo Player Jump into 3-D Web pages with this browser—the first to support VRML 2.0 with sensors, scripts, and sound. DoomToVRML2 Convert the polygon and texture information in a Doom level into a VRML 2.0 world file.

GLView VRML browser with a 3-D file viewer that lets you dynamically rotate three-dimensional objects.

Hyperwire Sneak Peek 2 Quickly create Java-based titles for your pages,

Liquid Reality Design VRML 2.0 solutions with this development platform.

Passport A Netscape Navigator plug-in that turns VRML worlds and ordinary Web sites into online communities by adding chat and interaction.

Pioneer A VRML browser and 3-D modeler in one.

SitePad You're free to create VRML worlds using syntax coloring and custom JavaScript and VBScript tools.

V-Realm Builder A replacement for longhand VRML coding. One of the few applications that can actually read and write VRML.

VRML ActiveX Control Is it real or is it ActiveX? Navigate VRML worlds with this control.

WorldView This VRML browser lets you do 3-D in real-time.

Web Graphic Tools

Animagic GIF Animator Shrink your GIF files by as much as 60 percent.

Gif.glF.giF Add GIF animations to your Web site.

Microsoft Image Composer Get professional-looking results without a hefty investment. Includes more than 500 tools and effects.

NetSketch Professional-level drawing tools built especially for the Web.

Pegasus Photoshop Plugin Create smaller, better-quality JPEG images.

Miscellaneous Web Publishing

Color Conceiver There's no excuse for a dull gray background. Design color schemes and gradients for Web pages.

The Gate Keeper A snippet of JavaScript code that restricts access to Web pages without CGI scripting. HTML Validator Validate your HTML documents without logging onto the Web.

Linkbot Even the most masterful Webmasters need help organizing, testing, and maintaining their Web sites.

Magic Buttons Abracadabra! Add buttons to your Web pages using simple JavaScript commands.

Message Warehouz Get valuable feedback by adding this BBS to your site. The Paparazzi Don't leave anything to

Applications

Accounting

Account Pro Let the paper ledgers gather dust; this program is all you need to keep accurate accounts.

First Office Small Business Accounting Get a handle on your cash flow with this easy report generator.

Junior Invoice Manager Find out who owes you money with this application.

Rate Calculator Time is money. Put an end to client-billing guesswork.

Time & Profit Entrust your billing chores to this shareware bookkeeper.

Business

1st Alert Check before you let them charge. You'll know whether their credit card will allow the sale.

askSam Resume Tracker Fill the job quickly: Search your personal résumé bank.

Proficient 2.0 Sharp, simple businessmanagement software. Looks like a PIM but acts like a project manager.

PropMan Let this electronic landlord keep track of rental properties and tenant-payment history.

Communication

Airsource Pro You don't need a pager to retrieve your messages; use your computer instead.

CallAudit Who's calling? You'll know with this Caller ID monitor.

Kurzweil VoicePad Give your fingers a rest as your PC takes over the typing. chance. Submit your site to the top search engines, directories, and catalogs.

Script Debugger Browse, edit, and debug your HTML pages using Microsoft Internet Explorer.

SR-HTML32 A search-and-replace application for speedy file processing.

Xpire Plus Avoid dead Web page syndrome. Search through directories (subdirectories,too) to replace outdated material.

Phonadex 95 Let your PC do the dialing.

Phone Book for Windows 4.5 The ultimate address book: dials the phone and prints envelopes.

TapiTNA Telephony Location Selector Never think about area codes again!

Information Managers

2Do Personal Task Manager The ultimate to-do list.

Above and Beyond It juggles your tasks and appointments so you're free to work.

Act 3.0 for Windows 95/NT Share contacts or other vital stats over a LAN or the Internet.

Chronilist Simplify your life and sync schedules the smart way.

The Journal Tell it like it is with this electronic confidante.

My Personal Diary for Windows 95 Tidy little PIM maintains a journal, address book, and other personal information.

Now Up-to-Date Make sure everyone's in the loop with this workgroup scheduler.

Password Tracker Never forget a password again. Store them in the Windows 95 Taskbar tray.

Personal Pager Go ahead, leave a voicemail message—even if you're sending e-mail.

ToDo No-frills to-do list lets you categorize, prioritize, and then delete tasks once you've completed them.



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THE DELL POWEREDGE 2100 HAS JUST WON SMALL BUSINESS SERVER OF THE YEAR.

(YOU SHOULD HAVE SEEN THE SWIMSUIT COMPETITION.)

Network Magazine's Small Business Server of 1997

All kidding aside, if you own a small business, the Dell PowerEdge 2100 really is a beautiful server. Just look at what Network Magazine had to say about it. "The Dell PowerEdge 2100 is designed specifically for small business environments and offers outstanding functionality, performance and customer support at the right price." Need more? The editors also went on to report that its advanced features like a 200MHz Pentium® Pro Processor ultra-wide hard drives and a PCI Ultra/Wide SCSI-3 Controller will, in their words, "add

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- · 8X SCSI CD-RDM Drive
- Intel EtherExpress Pro/100 Ethernet Adapter
- 3Com OfficeConnect Hub 8/TPC
- Intel LANDesk Server Manager v2 5x
- NEW Dell Server Assistant CD-RDM
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Do the Math

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have you noticed



that they don't include ALR in those comparisons? Take one look at our entry-level and mid-range servers, and it's easy to see why. Our dual processorready powerhouses provide all the performance and features of those competitive servers, for less money. Period.

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pentium' small business use. Choose

between Pentium® or Pentium® Pro technology. Full-size or mid-size tower. Then add just those options that you need. You pick the server that best suits your applications and budget.

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dedication to flexibility and reliability that have made our high-end Revolution servers international awardwinners. We've loaded these systems



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1,001 Best Downloads: Applications

Inventory

Atrex Stay on top of supply and demand with this inventory tracker.

Keys Get a lock on who has which keys to the office.

PrimaSoft Inventory Organizer Better not risk it: Catalog all your equipment. Store digitized photos, too.

Small Business Inventory Always be well stocked, thanks to this inventory and vendor monitor.

Software Inventory for Windows Don't get caught on a tech-support line without your registration number. Keep track of them all with this cataloger.

Legal

Contract Maker A collection of fill-inthe-blanks legal documents.

Legal Eagle Avoid the legal fees; draw up your own papers with more than 200 forms.

ReSearch Make legal research more manageable with this organized assistant.

Small Business Advisor Your very own tax and legal consultant.

Loan/Lease

BizWiz 4.0 You'll swear you're using a Hewlett-Packard HP-12C financial calculator.

EZ Loan Manager 97 for Windows 95 If only paying off loans were as painless.

Lease Consultant Is it smarter to buy the car? Get the straight answer.

Loan*Calculator Plus for Windows Run the numbers here before you leap.

Mortgage Designer Outline a mortgage you can live with, courtesy of this program.

Universal Mortgage Figure the best deal before you take out a second mortgage.

Math

DataFit You don't have to be an Einstein to plot data, generate curves, and manipulate mathematical information.

Graphmatica for Windows Turns out you really didn't need to pay attention in algebra class after all. **Qnet for Windows** Why strain your brain solving tough math problems when this neural modeling tool does it for you?

Office Utilities

Avery Label Pro Big or small, every business needs an easy way to format and print labels.

Conversion Buddy Easier to use than those complicated conversion charts. Quicker, too.

EZ-Forms XL Do-it-yourself office forms.

FedEx Document Prep Software Wish your packages a bon voyage with this document-shipping system.

FedEx Ship for Windows Automate shipping with software from the leader in overnight delivery.

Issue Manager Make short work of meeting notes. Prioritize topics and print out a status report.

Postage Saver Save money by sending mail in bulk. Sorts your mail according to postal service standards.

SuperMail Managing mailing lists just got easier. Even prints labels, form letters, and bar codes.

UPS DnLine Tracking Software Find out if your packages made it without having to call UPS.

Personal Finance

Debt Analyzer 97 Take control of your finances.

Microsoft Money Try out this excellent electronic checkbook program.

Personal Asset Tracker Don't trust your memory: Record the serial numbers and warranties of your possessions.

Quicken 97 Trial Edition See what you've been missing with this free demo of the premier personal-finance application.

Retirement Planner Prepare for your golden years with this analyzer.

Project Management

Activity Log Multitasking made easy: While you work, run it in the background to create time reports for multiple projects.

Chores A clock watcher that generates invoices too. Delegator Break down tasks and review employee status with this project manager.

Ecco Pro Try out this flexible information manager—especially if you use a U.S. Robotics Pilot or Timex Data Link watch.

Power Planner Where to turn for the really big projects.

Project Scheduler 7 Your projects will always be on time with this scheduling program. Publish Web pages, too!

ResSched Take control and keep tabs of your company resources, including conference rooms.

SmartDraw You don't need a big graphics package to crank out flowcharts and diagrams.

SureTrak Compare your active projects with your original plans.

Who's Who Book The perfect office address book.

Reference

101 Computer-Related Businesses Get ideas for your own PC-related business.

Franchising Fundamentals Is there a pizza parlor or dry cleaner in your future? Answers all your franchising questions.

Mostly Business Download this program for a daily work-related joke.

WinBiz: Book of Business Opportunities For the entrepreneur in you.



BUSINESS

Big Business One program handles all your business needs: accounting, contact management, inventory, marketing, and sales.

Integra Office NT More than a money-minder, this NT powerhouse is a personal information manager, too.

COMMUNICATION

United Connection Hunt for travel bargains—both airfare and car rental—with this slick program from United Airlines. Searches 500-plus airlines.

INFORMATION MANAGERS

Time & Chaos32 Simply the best shareware PIM around.

DFFICE UTILITIES

FedEx Tracking Software If you use FedEx, get this utility to keep tabs on a ackage delivery.



How to Get It All Download any of our 1,001 top downloads from www.pccomputing.com

Stocks/Bonds/Mutual Funds

Graph It Seeing is believing. Now you'll know when to buy or sell.

Investor Insight Up-to-date, in-depth investment data that works with Quicken.

Investor's Toolbox 95 Protect your money—and use it to make more—with this investment and retirement planner.

MetaStock for Windows Follow the market with data from one of 40 investment services.

MFTC32: Mutual Fund Tax Calculator How big a bite will the IRS take from your mutual-fund earnings? Use this application to find out.

Mutual Fundamentals for Windows Consult this primer program before you invest in mutual funds.

NetProphet Tap into the power of neural technology with this investmentprediction application.

Personal Stock Monitor 2.0 Manage multiple portfolios with ease; dial up one of nine online services that work with Stock Monitor.

Portfolio Pages32 Slice your portfolio by its various holdings.

StockTick Connect to your favorite quote server and watch your fortune change—every 15 minutes.

Winstock Keep an eye on this stock ticker, then export the results to Quicken.

Word Processing

Accent You don't have to leave out the umlaut or the tilde with this multilingual word processor.

NotePad+ Notepad with muscle. Open

bigger files and more files at a time.

Page After Page If Word, WordPerfect, or Word Pro is too much for you, check out this streamlined alternative.

Super WinBook 97 Pull it all together

with an electronic book that combines text and graphics.

WordExpress for Windows 95 Word processing made simple.

WordWeb Look it up electronically.

Desktop Application Add-ins

Adobe PageMaker

Additions Palette Add this floating palette to your pasteboard for instant access to your PageMaker Additions.

Fraemz Proportional Borders Library 1 Spice up your layouts with fancy borders.

Fraemz Proportional Borders Library 2 More borders to keep things interesting.

Fraemz Proportional Borders Library 3 But wait, there's more—a third set of PageMaker borders,

Style Groups Who needs templates? Import and export PageMaker styles in groups sans templates.

Style Report Know it all, with this detailed report of all your style attributes.

Tablt Take control of your tabs before they take control of you.

Type Styles Group styles and voilà: no more messy individual text attributes.

Adobe Photoshop

Andromeda Software Series 1 Photography Filters Demo Create groovy kaleidoscopic effects with this filter demo.

Andromeda Software Series 2 Three-D Filter Demo Here are filters for true 3-D surface wrapping, viewpoint control, and shading.

Andromeda Software Series 3 Screens Filter Demo Convert boring ol' grayscale into line art, mezzoblends, and other neat screens.

Art-Scan Professional Demo Quickand-easy, high-quality, multiple-image scans.

Eye Candy Demo One of the all-time best collections of Photoshop filters for dazzling effects. (Formerly called The Black Box.) Photoshop Plugin Manager Tame the plug-in beast with this totally free, totally handy filter manager.

Corel Office Professional

CleanReg Remove those excess Corel entries from the Windows 95 Registry.

Corel Internet Extension Package Browse the Net in a Corel Office app.

Starfish Internet Utilities 97 Manage your online activities right from Office Professional.

Starfish Sidekick 97 The simplest way to track your appointments and meetings.

Corel WordPerfect

Citer This legal eagle's best friend produces citation formats in a snap.

File Doctor for WordPerfect 6.x Just what you need to repair corrupted files.

FontKat Choosing the best font is a breeze with this typeface cataloger.

Grammar Slammer for WordPerfect A grammar checker that provides real answers, not more questions.

Graphcat Clip Art Cataloger Automatically catalog your graphics with this set of macros.

InfoCentral 7 Tame your databases from within Corel WordPerfect 7.

Letterhead Kit-32 for Corel WordPerfect Suite 7 Customizable business templates for the smoothest correspondence.

MRG2AD.EXE Move up and don't miss a beat by merging your WordPerfect 6.1 address info into WordPerfect 7 Suite's Address Book.

PowerSearch for WordPerfect Create sophisticated search strings—including styles and fonts!—in WordPerfect. QwikMacro Put your favorite WordPerfect tools at your fingertips.

SplitVu View and edit adjoining and multiple pages at one time.

UPDATE.EXE Get with the program and update Novell's WordPerfect 6.1 to Corel's version and fix some Windows 95 bugs.

WideDpen for WordPerfect Eight characters simply aren't enough. Create longer filenames thanks to this add-in.

Wood Clip Sampler Like woodcuts? Use WordPerfect? Grab this WPG image sampler of ten 19th-century engravings.

WordPerfect 6.1 Internet Publisher Get your WordPerfect documents on the Web—fast!

Miscellaneous Corel Add-ins

Corel CMX Viewer No more JPEG or GIF conversion! View CorelDraw CMX files with Netscape Navigator 2.0 and higher.

CorelWeb.Data Publish all your databases directly to the Web.

CorelWeb.Designer Go from zero to Internet in no time with this Web page creation package.

QPWAT Don't miss out on 30 new mathematical add-in @functions for Corel Quattro Pro.

Treats for Corel Print House Get inspired with these special-occasion sample files for Corel Print House.

Intuit Quicken

CheckPrint Design, format, and print your own checks and drafts from Intuit's Quicken—now if only you could print your own money. EE Bond Value Estimator Track savings bonds from within Quicken,

MYMD2QIF Convert data from Managing Your Money (DOS) to Quicken Interchange Format (QIF).

QifFix A quick fix for two importing problems in Quicken 4.0.

Quicken Register Entry Assistant Add split-transaction capability to Quicken.

ToQuicken for Windows Convert downloaded files into a format Quicken recognizes.

Lotus 1-2-3

123Power A bookful of Lotus 1-2-3 macro help at your disposal.

Lotus 1-2-3 Converter for Microsoft Word Turn your Lotus 1-2-3 documents into Microsoft Word 6.0 tables.

Personal Info Manager Put your life in order with this 1-2-3-compatible PIM.

Smartlcons Lotus Forgot The name says it all! Plus, get varied borders and backgrounds.

Total Investor for Lotus 1-2-3 Stay on top of that growing portfolio.

WiseGuides Still using Lotus 1-2-3 for DOS but can't find your manual? Never fear, here's an electronic replacement.

Lotus Notes

Act for Lotus Notes Teamwork means sharing. Now everyone in your workgroup can access the same customer information.

GroupShield for Lotus Notes Say goodbye to Lotus Notes viruses.

InterNotes News SDK Tap into Usenet newsgroups right from Notes.

Lotus Notes Asset Manager The easy way to manage your single- and multiuser Notes licenses.

Lotus Notes Internet Cookbook for Notes Release 3 Get cooking (on the Net, that is) without leaving Lotus Notes.

Lotus Notes Internet Cookbook for Notes Release 4 Get the same Internet capabilities for Notes Release 4 users with this program.

Notes Jargon File Master technospeak with this compilation of hacker lingo.



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Underneath it all, we're still the same.

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You may not know the name, but you'll surely recognize the face. Beginning with models launched in April, "EIZO" will become the brand name on every new Nanao monitor added to our line.

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to expect under the Nanao brand name.

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As you can see, the more things change, the more they stay the same.



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> Optional links are available to Schedule+, Lotus Organizer, Symantec ACTI, Ascend 97, and others (sold separately).

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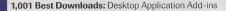
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PalmPilot Professional \$399* All PalmPilot Personal

features plus:

Pocket e-mail Internet ready (TCP/IP support) Twice the memory



Orphan Manager Help your orphaned Notes documents find a home.

Miscellaneous Lotus Add-ins

Freelance Mobile Screen Show Player The worry-free way to take your show on the road.

Grammar Slammer for Word Pro Say it the right way. This utility sniffs out grammar errors.

Lotus ScreenCam Why just tell when you can show a compelling movie instead?

Lotus ScreenCam Player 97 Learn by example with this screen-show player.

Organizer 97 Web Calendar Get to your schedule right from the Web.

WideOpen for Ami Pro 3 Go ahead and wax eloquent with your filenames—no more eight-character limits.

Best of the Net

AOOBE PHOTOSHOP

Filter Factory Gallery and Andrew's Filters Create mind-blowing visual effects with 250-plus Photoshop filters.

MICROSOFT ACCESS

Easy Accounts Finally! Accounting for any size business.

MICROSOFT EXCEL

Spreadsheet Assistant Two little toolbars give you more than 150 automated commands.

MICROSOFT WORD

WOPR 95 Turbocharge Word for Windows with this practical suite of essential -utilities.

MISCELLANEOUS MICROSOFT A00-INS

Active Office for Office 95 & 97 Magically transform text and numbers in Office documents into full-color graphs, charts, and other visual aids. WordPerfect to Lotus Word Pro Switchkit Help for making the big move.

Microsoft Access

ABarCode Go bar-code crazy in your Access reports.

Access ELF Translate natural-language queries into Structured Query Language (SQL) in seconds flat.

Access for Windows 95 Sample Forms Database Save yourself a lot of work with these complete form samples.

DareBase Easily transform simple tables into Access database files in no time at all.

DB Lock No surprises. Instantly know which member of your workgroup is using an Access database.

DbmaintMS An indispensable collection of tools for managing your Access 95 databases.

EF Pro-References Keep track of the defining moments of your life with this biographical info tracker.

Expense Tracking System Worried about going over budget? This program helps you keep running totals of various expenses.

FMS PowerPack for Access 7.0 Heavyduty help with managing your Access databases.

FMS Text FX Goodbye, boring reportssee 'em in 3-D!

Fringe Sure, your employees say they're invaluable. See for yourself by calculating exactly how much each of your employees costs, including perks and paid leave.

Internet Assistant for Access 95 Use this app to create your very own Internet catalog.

Menu Builder Wizard Why settle for Microsoft's menus? Design your own.

Microsoft dbWeb Yes, you can! Publish data from an ODBC data source on the Web or an intranet.

NameBase for Windows Everything right at your fingertips—from your client's car-phone number to his or her favorite wine.

PM Advisor Become a master of your office equipment instead of a slave by tracking inventory and maintenance.

Total Access Components Enhance the look and feel of forms and reports, and simplify programming. What more could you ask for?

Microsoft Excel

Baarns Excel Patch Checker Consider this your personal bounty hunter and repairman for three known bugs.

BusinessQuery An easy way to access databases and load the information into Excel spreadsheets for charting and analysis.

Convert It for Excel 5.x If you can't get a handle on the metric system, let this handy application convert standard units of measurement to metric and vice versa.

Edwin's Power Tools Jazz up your spreadsheets with 3-D formatting, a navigator, and several filters.

EPT Zoom Control 1.0 Take a closer look at your number-laden spreadsheets.

Excel to Web Table Converter Turn selected worksheet cells into an HTML table in a flash

I'm No Accountant This single-entry workbook tracks your accounts—and provides help in a pinch.

Internet Assistant for Microsoft Excel Helps you get your Excel 6.0 spreadsheets on the Web fast.

Objectives Manager Workbook Ato-do list that helps you do more.

Perpetual Calendar Add-in for Excel 5 A pop-up calendar that's always at hand.

Power Utility Pak 97 A set of power tools for the newest version of Excel.

Prime 95 for Excel 7.0 Customize your Excel workspace.

Print Selection Add-in Save trees by printing various cell ranges on one page.

ReportRunner Churn out multiple reports and graphs on the fly.

TalkBack for Excel 5 Why read through all those numbers when you can hear your spreadsheet read back to you?

Trade Sizer Take some of the guesswork out of selecting a stock-trading system. WideOpen for Excel 5.0 Break the eightcharacter barrier for Excel filenames.

Microsoft Word

3.5" Disk Label Creator Floppy-disk labels with flair.

Act Tools '97 Tap into your Act contacts directly from Word 7.0.

Address Book for Winword You won't run out of room in this address book; it holds up to 8,000 formatted entries.

Address Fixer No more returned mail, thanks to this address checker.

Ami Pro 3.0 Converter for Word 6.0 Make it easy for Ami Pro and Word 6.0 users to get along.

Avery Wizard Labels for everything imaginable.

Business Card Creator for Word Why hire a designer when you can crank out your own business cards?

CD Player Add some background music as you work in Word with this handy tool.

File Manager Jr. 95 Whip your Word files and folders into neat, organized groups.

Grammar Slammer for Word A grammarian for your computer.

Hellip Get instant Windows Help files courtesy of this Word document converter.

Internet Assistant for Microsoft Word Turn your Word 6.0 documents into HTML files.

JumpTo Macro Suite Stop scrolling with this hyperlink helper.

KeysPlease Type fanatics will like these keyboard-key fonts and symbol fonts.

Mail-To Formatter Convert that gobbledygook generated by Internet mail-to forms into tidy Word documents.

MegaWord 95 Customize Word 95 to the max without sacrificing any original functions.

Microsoft Word 97 Converter Share Word 97 documents with coworkers still clinging to those old versions.

Office Navigator for Winword 7.0 Manage Word files like never before: Zip documents, schedule automatic backup, create quick shortcuts, and more.



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1,001 Best Downloads: Desktop Application Add-ins and Utilities

Office Toys for Word 97 Mold Word to your every whim with this bundle of tools.

PowerSearch for Microsoft Word Go Boolean in Word with this muscular add-in that also does font and style searches.

QuickFooter Call in the specialist: fast custom footers and headers.

SCRNPRD.DDT The perfect template for aspiring playwrights.

Technical Dictionary Better than Word's built-in dictionary for the techobsessed.

Toolbar Doubler Increase the elbow room in your Word 6.0 window by squishing two toolbars into the space of one.

TSS WordContact Turn Word into a contact manager.

WideOpen for Word 6.D Don't let eightcharacter filenames cut your creativity short.

WinFax Pro Macro for Word 7.0 Your own personal fax machine, right on the Word toolbar.

WDPR 95 Plus Pack An add-in to an add-in, which beefs up the alreadypowerful WOPR 95.

Word PhoneBook Insert addresses and phone numbers into Word documents with a single mouse click.

WordPerfect Fonts and Templates for Word Ease the transition to Word.

WordPower Do more with Word, courtesy of this macro collection. Contains more than 50 macros.

WordToys More goodies to add to Word: 70-plus macros, 40 tools, and 8 toolbars.

Wordware '96 Why download a gazillion add-ins separately when you can round 'em up in one shot?

Wordware Personal Information Manager '95 Looks and works like a genuine Rolodex.

Miscellaneous Microsoft Add-ins

FOXSQZ Put the squeeze on your Microsoft FoxPro documents with this compression and archiving utility.

Microsoft Clip Gallery Live Extend Publisher's clip-art gallery with this constantly refreshed collection of free images.

Microsoft Publisher 97 One of the easiest ways to create filiers, brochures, cards, and more. Try it for a few months and decide for yourself.

Microsoft Web Publishing Wizard Step-by-step help for posting your PowerPoint creations to the Web.

OfficeLock Keep all your Office documents safe from prying eyes.

PowerPoint Animation Player and Publisher Breathe some life into your Web pages with this crackerjack animation player.

PowerPoint Internet Assistant Now your presentations can reach a bigger audience: the World Wide Web.

Zephyr Run reports, generate labels, or crank out form letters with this FoxPro app.

Miscellaneous Add-ins

Business Plan Master Make your dream a reality with this stellar set of businessplan templates for Microsoft Excel, Lotus 1-2-3, Microsoft Word, and Corel WordPerfect.

Database Browser Plus Talk about versatile: No matter what application you're currently using, you can search database files with this utility.

DataImport Translate text-based data from almost any source into nearly 40 database formats.

Drag and View Gold Don't worry if you don't have the program a file was created with. This add-in does the trick.

dtSearch for Windows 95 A slew of search protocols help you quickly track down documents.

Harvard Spotlight Demo A quick and dirty way to add panache to your presentations.

Library Database 1 Bookworms can catalog their libraries with this Borland Paradox for Windows 5.0 add-in.

Word Viewer Just because you're not using Word doesn't mean you can't view Word documents. Xchequer Make online banking even more convenient with this pull-down menu to Microsoft Excel, Lotus 1-2-3, or Corel Quattro Pro.

Utilities

Accessories

AutoMate Professional Edition 3.5g Put your computer on autopilot and let it handle routine tasks.

ClipMate 4.2 A pumped-up version of the Windows clipboard for pasting multiple objects.

ClockMan95 Turn your favorite application tasks over to ClockMan; it'll run them for you automatically.

Convert It SE Forget the guesswork: Go with a foolproof way to convert all kinds of measurements.

DiskDupe 5.D If you still do DOS, use this app for quickly copying floppies.

Easylcons 95 All-in-one icon shop: Open, save, and edit icons in multiple formats.

Forgot It Sticky notes for your computer.

The Joystick Control Center Don't let a two-button joystick stop you from playing Flight Simulator: Add this virtual joystick with up to ten command buttons.

LogoChanger 95 Fight boredomrandomly change your Windows Startup screen.

Toolbar 2000 Get to more apps faster with this Start Menu replacement.

TrayText 6.Dc Hold that thought literally—on your toolbar. Great for quick pasting into e-mail messages and other documents.

Visual Merge One of these documents is not like the other. See how by viewing them side by side with the differences highlighted.

WinShade 2.0 Clear away desktop clutter by rolling up programs into their title bars.

Compression

Aeco Zip Explorer Pro 2.1 Do it the Windows way, by right-clicking to your file-management tasks. PKZip for Windows You can't download files without a decompression utility. Why not go with the classic?

WinPack 32 Deluxe 1.3 There's more to the Net than Zip files. You need this to handle all the different formats.

WinZip 6.2 Don't download a thing from PC Computing's Web site until you get this file.

WinZip Self-Extractor Presto! Turn a Zip file into an EXE file.

ZipFolders 2.01 You've never seen Zip files that act like folders. Work with files while they're still in the Zip format.

Desktop Utilities

Bali Tools Everything you need in one place: system restart, calculator, phone numbers, to-do list, and e-mail access.

Dashboard 95 Get to all your apps from a single control panel and tackle all your Windows 95 chores.

Desktop Informant Sweat the details with this file helper. Just pass the cursor over a filename for the complete rundown.

EzDesk Set your desktop in stone with this handy utility. Your icons won't move no matter what changes you make.

Imp's Desk List Click-and-go: Launch all your applications right from the Windows Taskbar.

Perfect Screens If you can't afford a bigger monitor, gain more desktop real estate with this virtual desktop creator.

Power Toys Complete Set Improve on Windows 95 with this set of operatingsystem enhancements.

Stiletto Take your desktop to new heights by adding button bars, menus, tray icons, and hotkeys.

Diagnostics

Data Digger All is not lost! Salvage data from corrupted files.



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Help



Pub. Price \$16.95 B&N Price \$13.56 Whether you're looking for beginners' tips or expert advice on Office 97, Microsoft Press can help. Microsoft Office 97 At a Glance offers easy, visual information that quickly helps

you with a particular task. Running Microsoft Office 97 answers all your questions and provides clear instructions for every Office application. Learn how to get your digital office up and running today with Microsoft Press.



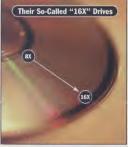
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Their 16X CAV Drives starts reading at 8X, and only reads at 16X at the end of the disc, a drive rating of 11.5X*



Our 12/20PleX CAV Drive starts reading at 12X, and reads at 20X at the end of the discc, a drive rating of 16.5X*

Introducing The 12/20PleX CAV CD-ROM Drive

The Only True 20X Max, 12X Minimum Performer.

True fact, the new Plextor 12/20PleX CD Drive does exactly what its name implies – reads at 12X on the inside of the disc and maxes at 20X on the outside. And does it with the same professional reliability you expect from Plextor. Nothing obscene there.

The other gay's so-called 16X CD Drive actually performs at 8716X - reading 8X at the beginning of the disc and 16X only at the outside of the disc. For them to tell you otherwise is absolutely obscene. The critics at PC Magazine, Computer Shopper, NetGuide, PC Graphics & Video and PC World saw through it right away.

The Plextor 12/20PleX CD Drive also delivers an industry-leading average random access time of 65ms to improve multi-user/multitasking performance. Add transfer rates of 3MBps. Add MultiRead compatibility for worry-free use of the new generation of re-writable CD media and CD-IDW drives. Add superior 512K buffer manage ment to further enhance efficiency and reduce CPU utilization. Add improved performance when serving data, images or video over a network. Even pull CD-Audio off at high speed for faster multimedia creation.

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1,001 Best Downloads: Utilities

InfoSpy The cure for frozen screens. Plus, it monitors your system, manages files, and schedules application launches.

InWatch95 Keep tabs on your Windows Registry and INI files.

Kernel32 Update Track Windows memory problems with this handy utility.

MSPhone Directory Call Redmond. Here are all the tech-support numbers you need.

Start Clean 1.2 Get a fresh start and clear dead icons from your desktop and Start Menu.

Windows 95 Service Pack 1 Update You don't have to wait for the next big upgrade to improve Windows. Get these patches and enhancements now.

Wintune 97 Find out what's ailing your system—and fix it.

Encryption

Acrypt Be safe and speedy with this tool for encrypting multiple files at once.

Crypt-o-Text 32 Forget public and private keys. Encrypt your messages so they can be opened only with a password.

Encrypt-It for Windows 95 Paranoid? Or is your stuff really sensitive? Get some good old-fashioned encryption.

File Finders

More Space 95 Take back your hard drive.

SafetyScan Did you mess anything up the last time you rebooted? Just to be safe, run this file checker.

Space Hound Just because you can't see it, doesn't mean you can ignore it. Clean out your cluttered subdirectories.

SwShell Power-search from anywhere on the desktop.

Zarchive 1.4 Who's minding your backup drive? Trust your lomega Zip, Jaz, or other drive to this reliable archive utility.

File Managers

CleanSweep File finesse: Uninstall, archive, or move files to another drive safely.

DataPage Maker-DIR What a hotlist: the current contents of your hard drive.



Dir3D Who says file management isn't any fun? Fly around your hard disk or network drive with this cool 3-D replacement for Explorer.

Drag and File Gold It's a file manager. No, it's a compression utility. No, it's an app launcher. It's everything, Just get it.

FileSplit 1.1 The file's 2MB, the floppy's 1.44MB. Not a problem when you can split it in half and use two disks.

FileSync Take version control and automatically sync two folders so they're the most up-to-date. Great for laptop users.

PicaView 32.1.0 Peek inside your image files with this Explorer add-on.

QuickView Plus No matter what kind of file it is, you can see its contents. Supports more than 200 different file types.

SpyDir 2.0 Instantly see how much disk space you waste, then clean things up.

Turbo Browser for Windows 95 Keep the familiar Windows Explorer look, but get a whole lot more features, too.

Xchange for Windows 95/NT Make your PC read and write Macintoshformatted disks.

Font Management

ABC 95 Better font management than the Windows 95 Control Panel.

Microsoft Windows 95 Font Smoother Hmmm. Looks suspiciously like part of the Microsoft Plus Pack—only it's free.

Quick Font Sampler See it in blackand-white with a handy printout of your fonts.

TTFPlus Load 'em up. Get to all your fonts quickly.

Memory Management

Memory Analyst Seeing is believing, especially when it comes to managing Windows 95 and your system's memory.

MemPro 95 You can never have enough memory. Get more with this utility.

Resource Monitor Spot memory hogs with this visual memory display that works on the fly. VRAMDIR Cache in and speed things up.

Print Utilities

Booklets You don't need a desktop publisher to print a simple booklet.

Drag and Drop Printing Windows 95 and Macintosh users aren't the only people who can use drag-and-drop printing. Get this if you run Windows 3.1.

FaxMail Save yourself a trip to the fax machine; send faxes from any Windows application.

Screen Print 32 Relive the DOS days and make that Print Screen button on your computer work again with Windows 95.

SmartDoc 95 Wish you had a manual? Print an entire Windows 95 Help file, not just a single topic, all at once.

Winvelope Post-office perfect: Print envelopes complete with graphics and bar codes.

Security

007 for Win32 Lock up your favorite apps.

BackUp Registry 1s your Windows Registry backed up? Just checking.

FearNot No way in, thanks to password protection and restricted rebooting.

LifeSaver Longing for a normal life after a messy install or two? It's easy to go back when you track your configuration changes with LifeSaver.

Magic Folders Don't let your boss get a peek at your updated résumé. Hide personal files and folders from wandering eyes.

Passwords Plus How secure can it be when you have to share passwords? Add discrete passwords for multiple users on a single system.

RedHand Who's been on my computer? Find out with this know-it-all utility.

Safety Net Pro 5.2 Play it safe and back up all your critical files.

WinU The Internet isn't the only thing you may want to keep your kids away from. Restrict access or limit playtime with WinU.

System Utilities

Barry Press Utilities Lots of little extras you soon won't be able to live without, including a random multimedia fileplayer and a DLL investigator.

Kernel Toys Microsoft's giving it away: a collection of essential add-ons for Windows 95.

SciTech Display Doctor 5.3 A collection of graphics card goodies, including the Univbe driver.

VersList Match-make your DLLs with the right executables.

Win95 Startup Editor Get off to the right start with this configuration editor for the MS.DOS file.

Virus Protection

EMD Armor 95 Personal Firewall You, too, can have your very own firewall.

Integrity Master To serve and protect—and fix hardware and software damage to your system.

McAfee VirusScan Don't take anymore chances. Get the granddaddy of virus checkers.

Symantec AntiVirus Research Center Intelligent Updater Keep your virus

Best of the Net 🎽

ACCESSORIES

Microangelo 2.1 Liven up your desktop with this animated icon manager and editor.

COMPRESSION

WinZip 32-bit Install/Try/ Uninstall Clear the clutter with this invaluable uninstaller add-in that cleans up after decompression.

DESKTOP UTILITIES

PowerDesk Utilities 2.0 A better way to manage, organize, and compress your files.

SYSTEM UTILITIES

Oil Change 1.2 Are your patches up-to-date? Oil Change lets you know.

VIRUS PROTECTION

ThunderByte Anti-Virus 95 Want another option? Try this top-notch virus detector.



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eradication doesn't have to be a chore

ViruSafe 95 Virus detection and

protection up-to-date. Otherwise what good is it?

Thunder Byte Anti-Virus for MS Exchange Get this antivirus app especially for Exchange and stop those nasty e-mail viruses in their tracks.

Multimedia

3-D Graphics

3-D Fotocube Flying photo cubes! Works with BMP or JPEG files.

Fractal Landscape Generator You may not be Picasso, but with this tool you can turn your computer screen into a canvas for 3-D rotating landscapes.

Genesis Build your own 3-D graphics applications. Includes C++ libraries, DLLs, a 3-D editor, and documentation.

MicroLathe Get the 360-degree view of your 3-D creations as you build them.

RenderDotC Create mind-blowing photorealistic effects with this powerful, easy-to-use 3-D rendering engine.

RT Editor All the rays you can trace free. Plus: texture mapping, stereogram, and VRML 1.0 output.

Snowflake Designer Let it snow: Create variable snowflakes and save them as DXF or RAW files.

Animation

3Dem Assemble fly-by animations from DEM elevation data files.

Animagic Gif Don't just sit there. Get animated with this utility for creating and optimizing GIF animations.

Animate Transform FIT, BMP, SPE, and TIF files to AVI format with this animation compiler.

Ani the Animator Create your own cel animations.

Cel Assembler Follow your work: Put together and view GIF animations frame by frame.

Fractrip Generate dazzling Mandelbrot images.

Hypercam Capture the action from your Windows 95 or NT screen and save it as an AVI file. MainActor Don't animate without it: the ultimate animation-format conversion package.

Drganic Art Create stunning, organiclooking computer-generated images.

QuickDraw Display images in the Metafile format.

Sprite Animator View and build sprite animations.

Zonerings Breathe life into your line graphics.

Business Graphics

Efofex Graph Pack financial presentations with more punch: Include Cartesian and polar graphs.

Graph Crazy You'll never go graphless again. Choose among 11 styles to bolster reports.

Mind Path Presentation FX Overlay impressive special effects on your presentations.

Ososuite Graphics for any job: ad layout, business-card design, and label making.

Pie Slice Quit agonizing over complicated pie-chart generators. Grab this ultrasimple utility.

Quickgraf Create 3-D bubble, bar, and pie charts in no time flat.

Graphics Converters

Fractal Imager Load and save images via fractal compression.

Graphics Workshop Handles all your graphics chores; supports 36 graphics and movie formets.

Graph-X Viewer View, convert, and create image thumbnails.

Hypersnap Grab screen shots and save to a variety of formats, including progressive JPEG or transparent GIF. Image Robot Lightning-fast image conversion with batch processing of more than 30 formats.

Mr. Snappy Doing screen grabs? First grab this small, simple utility.

Multimedia Xplorer Display, convert, and organize a wide variety of image, movie, and audio files.

Pixfolio 32 Organize your image collection with this viewer and cataloger.

Polyview Everything you need for image processing and conversion.

WinSIROS Create random-dot stereograms from color bitmaps, equations, or depth maps.

Graphics Editors

Bitmap Rotator This utility makes perfect tiled backgrounds possible.

The Graphics Factory Put algorithms to work to generate seamless landscapes, patterns, and textures.

GraphPro If it's speed you want, get this graphics image processor and converter.

HyperImage Batch process images and manipulate graphics in several file formats.

Lview Pro Versatile editor handles multiple file formats.

Maptrix Generate fractal noise textures with this muscular tool.

Photoline Get it for the features, use it for the filters.

QuickSilver ReTouch Work with multiple files, morph images, and retouch photos.

Graphics Viewers

Chaos Stirthings up with this basic Mandelbrot and Julia image generator.

Flashview You've got choices: Browse and display 23 image formats and 2 multimedia formats.

Image Commander Speedy graphics viewer supports more than 30 formats.

Mediavista Don't spend hours looking for image files. Get this imagemanagement program for organizing, annotating, and printing.

PhotoBubble Viewer There's no angle you can't see with this 360-degree image viewer. Present Create quick slide shows with this image viewer.

QuickTime VR Take a groovy 360degree trip around one or more images.

Thumbs Plus An image viewer, finder, and organizer that supports a huge range of file types.

VuGrafix Image Viewer Size up your thumbnails with this nifty viewer.

Multimedia Display

Cryptapix Secure slide shows, thanks to built-in encryption.

Formula Graphics Multimedia System Total multimedia management: bitmaps, animations, sprites, video, sound, buttons, and graphs.

MultiMedia Maker Simple slide-show and display utility for a variety of graphics and movie formats.

Multimedia Player Automatically play your sound and video files.

NeoBook Punch up your presentations with pictures, sound, video, special effects, and text.

Presentation King Drag and drop text, sound, bitmaps, and simple animations into your presentations.

Best of the Net

GRAPHICS CONVERTERS

GIF Construction Set Everything you need to create GIF files.

GRAPHICS EDITORS

Paint Shop Pro Outstanding package offers more than 30 filters and effects, a format converter, a screen-capture utility, and an image browser. PhotoRecall Easy image

cataloging-visually.

MULTIMEOIA DISPLAY

Mediasauce Stimulate the senses with this player that supports WAV, MIDI, video, and audio files; plus a CD database.

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Gold Wave A digital sound editor that doesn't miss a heat



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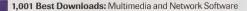
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SlideShow Pro Simple slide-show program combines BMP foregrounds, backgrounds, sound effects, and text.

Slim Show Add interactivity to your presentations, along with text, audio, and graphics.

VidFun Create superslick multimedia slide shows and screen savers. Does image processing, too.

Sound

Awave Audio and wavetable converter, editor, and player supports a huge array of file formats.

CD/Spectrum Pro An audio CD player and spectrum analyzer in one.

Digital Audio Filter Choose between general and cascade audio filters.

FX From Darth Vader to the Chipmunks, process all kinds of sounds and effects.

Graphic Level Meter Seek new sound heights: features oscilloscope, graphic level, folding, sting, and bar meters.

Hitline 95 A sophisticated CD player with an integrated database.

ICCD Enhance the performance of your PC's audio CD output. Also: screen tracking and QuickPlay.

MediPlay Play an entire directory of MIDI, RMI, WAV, and AVI files at once.

MIDI Pentagram Replace the Windows Media Player and build your own playlists.

Midnight Express Add software wavetable to your PC. Multi Player Get big sound from this compact audio player.

QUACK Effects Studio Custom sound effects saved to WAV files.

SoundStudio LE Make beautiful music with this MIDI editor.

Synthmaster Beyour own five-man band.

Wmp2Split Tweak MPEG-1 audio.

Video

AVIiva Replay it or play it backwards with this AVI player with loop and reverse play.

Enjoy A single player that supports a variety of video formats.

Ladybug 97 She won't fly away before she plays your MPEG-1, AVI, and MOV files.

Morpher for Windows Transform static BMP files into animated AVI morphs.

Personal AVI Editor AVI single-track audio-video editing with wipes.

QuickTime 32 Do you need the latest version of Apple's video player?

Screen Test Check your monitor's video output with this linearity, gray, and color bar test.

Video Launch Pad Sit back and enjoy the show—program up to ten videos in a row with this app.

VideoPrompter Pretend you're a news anchor. Large, smooth-scrolling text for use with video teleprompting. points-then generate reports with this slick utility.

Network Toolbox Wield this ten-pack of utilities to scan ports, ping, trace routes, and even sync your Windows 95 clock to the NIST atomic clock.

Nifty Network Thing Administering Netscape Navigator on your LAN? Use this tool to keep users' mail, news, and bookmarks in their net directory regardless of log-in location.

QuickLAN Administers and keeps track of your Windows LAN clients. Acts as a policy editor and activity monitor.

Remoter Remote Control Suite Run programs on remote machines using Windows 95 or NT 4.0.

Safelt Keep track of multiple TCP/IP configurations on your LAN.

Satan Sniff out common network security problems with this diabolically named utility.

Smart Security Selectively restrict access to floppy, removable, and CD-ROM drives as well as serial and parallel ports.

TCP/IP Surveyor Trying to make sense of your TCP/IP network? Use this tool to map Internet protocol routes from routers to servers, and from clients to defined hosts.

Visual Net Supervisor Keep an eye on your network with this graphical utility. Notifies you of problems by e-mail or pager.

WhatsUp Monitor comprehensive network problems and select from a customizable variety of alarms.

WinProxy Use this friendly utility to connect your LAN to the Internet using a proxy server, firewall, and mail server.

Mail

Argus Look no further for a Windows 95 FidoNet mailer.

GateKeeper Link your LAN to the Internet with this strapping utility that won't cost you a dime.

MailW@tch Track incoming mail in up to 50 POP3 mailboxes from your Windows 95 or NT 4.0 Taskbar.

Network E-Mail Not looking for lots of bells and whistles? Check out this

simple but complete e-mail system.

WinGate Pro Use this amazing application to connect your LAN to the Internet using a single modem.

WinProxy Link your entire network to the Net with one connection. Supports many protocols—HTTP, FTP, SMTP, POP3, dialup networking, and more.

NetWare

Neighborhood Watch This slick screen saver helps you keep watch over your network.

NetWare Client for Windows NT Running NT but want full Directory Services access? Turn here.

NetWare/IP Manage your network's Internet protocol addresses from a widearea connection.

NWCopy Use this utility to distribute applications and synchronize files on your network.

NWMenu Make Windows menus for your Novell network.

Best of the Net 🎽

LAN SOFTWARE

NetLab Looking for a do-it-all utility? This is it: DNS lookup, PC clock synchronization, quote of the day, and more.

MAIL

NewMail Use this tiny program to watch your POP3 mailboxes for incoming mail, then use your e-mail program to fetch it.

NETWARE

The Network File Manager Missing your FILER, SALVAGE, and VOLINFO DOS commands in Windows 152 Don't despair: They're all here.

WINDOWS NT ADD-INS

Server Management Tools Keep tabs on your NT server, users, and events from a Windows 95 desktop.

Network Software

LAN Software

Big Brother Watch for trouble on your Internet-protocol (IP) network.

Current IP? Get your current IP address and copy it to the Windows 95 clipboard with this snappy app.

DirectParallel Connection Monitor Get detailed parallel-port info and help with Windows 95 direct cable connections.

LANDesk Workgroup Manager Oversee multiple network operating systems with this workgroup tool. LANTropolis Screen Saver Feel like a real nethead with this perennial favorite from Intel

Net Documenter Paint an instant picture of your LAN/WAN layout.

Network LED Sick of looking at the back of the PC? Move your network card's LED status lights to the Windows 95 Taskbar.

Network Scanner Get specifics on every network card attached to your NetWare or Ethernet network.

Network Security Organizer Scan for trustee violations and infectable virus

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Pin-ups Easily oversee your network with this collection of DDS commandline utilities.

Replica Back up servers and volumes with this dependable app.

Saber LAN Workstation Manage your NetWare or Windows NT network with this comprehensive applications suite.

ServerStor LANs Back up your departmental servers with this reliable tool.

Snoop Get the lowdown from any and all workstations. Includes source code for the power administrator.

Stomper Modem sharing made easy for your network.

Watcher Detect a variety of LAN problems on your network with this powerful utility.

Windows 95 and NT

Distributed Access System Starter Kit Save time and avoid hassles by delegating administration authority across your Windows NT 3.51 or 4.0

McAfee ViruScan for Windows NT Protect your server with the latest version of the popular, reliable virus detector from McAfee.

network

Reboot Got a Microsoft network (Windows 95 or NT)? Keep watch for user reboots or crashes with this utility.

ZipMapper Connect or disconnect clients from your Windows 95 or NT network resources with a few mouse clicks.

Patches and Drivers

CD-ROM Drives

Creative Labs CO-ROM Driver The generic driver to try when you can't find exactly the right one. Supports CD-ROM drives from eight manufacturers.

Sony CD-RDM drives ATAPI Driver Lost your driver disk? Get what you need here.

Sony's CDU-31A and CDU-33A Driver A single driver works with both drives.

Sony's COU-53x and COU-720x Oriver Resolve CD-ROM problems.

Toshiba ATAPI Driver Use this driver with any Toshiba ATAPI drive.

Toshiba SCSI Driver Get this one if you have any Toshiba SCSI drive.

Hard Drives

Green Drive Your monitor isn't the only greedy part of your PC: Power manage your hard drive, too.

Max Blast Painless hard-drive installation, no matter what type of drive you have.

Maxtor Low Level Format Utility What to use when you want to wipe clean your Maxtor IDE drive.

Seagate SEG32BIT Give Microsoft's generic hard-drive driver the boot and speed up your 528MB or bigger drive.

System Data Everything you want to know about your BIOS and hard drives.

Modems

Creative Labs Modem Blaster PC Card Setup Files Just in case you need to set up your Modem Blaster again.

Hayes Accura 28.8 Flash ROM Upgrade to 33.6K How can you pass up more speed for free?

Hayes Optima 28.8 Flash RDM Upgrade to 33.6K Is your modem running as fast it can?

Hayes Dptima PC Card with EZ-Jack Flash ROM Upgrade to 33.6K Dial in faster when you're on the road with this upgrade.

Hayes Optima PC Card Without EZ-Jack Flash RDM Upgrade to 33.6K Get the right upgrade for your EZ-Jack.

ISDN Accelerator Pack Put your ISDN hardware to work with this Microsoft add-on.

Megahertz XJ1288 and CC1288 PC Cards Flash ROM Upgrade to 33.6K Boost your Web cruising to 33.6Kbps.

Supra 288/336 Modem Driver Make the

most of your Supra modem under Windows 95.

U.S. Robotics Courier V.Everything Driver Copy this file to your Windows\ INF directory to redetect your modem and optimize performance.

U.S. Robotics Courier V.Everything Flash ROM Upgrade to 33.6K You don't need a new modem to get more speed.

U.S. Robotics Courier V.Everything PC Card Flash RDM Upgrade to 33.6K Make your portable modem faster.

U.S. Robotics Sportster 1626 PC Card Flash RDM Upgrade to 33.6K Yet another upgrade for a PC Card modem.

U.S. Robotics Sportster DSVD Modem Flash ROM Upgrade to 33.6K Talk or send data even faster now!

U.S. Robotics Sportster Winmodem Flash RDM Upgrade to 33.6K Faster is better, especially when it comes to connecting to the Internet.

Unimodem V Try this generic modem driver that works with any modem.

Scanners

Hewlett-Packard ScanJet 4C Plug and Play Oriver for Windows 95 and Windows 3.1 If you need to reinstall your scanner, then get the most up-to-date driver.

Hewlett-Packard ScanJet 5p Software Bundle Everything you need to add pictures to documents and do OCR.

Visioneer PaperPort Viewer Your colleagues don't need a PaperPort scanner to share your files.

Sound Cards

Phone Blaster 28.8 Stay current and overcome the 4-second recording limitation if you're using Creative's SuperVoice 2.2B software.

Sound Blaster Windows 95 Full Duplex Driver Works with any flavor Sound Blaster.

Tape Backup Utilities

PTape Keep tabs on your parallel-port tape drive with this diagnostic utility.

Seagate Backup for Windows 95 ATAPI You're backed up, right? If not, get this program for your Seagate ATAPI/IDE drive.

Seagate Backup for Windows 95 SCSI Upgrade If you've got the SCSI model, get this Seagate program instead.

Printer Drivers Get the most from your printer. Make sure you have the most current driver.

Epons Bytes Color 200 E ary Setup for Windows 5 and Windows 3.1 Epons Stylus Color 200 Windows 95 and Windows 3.1 Driver Epons Stylus Color 200 E ary Setup for Windows 3.3 Driver Epons Stylus Color 500 Windows 95 and Windows 3.1 Driver Handett Packatard 400 Desklet Windows 95 and Windows 3.1 Driver Hendett Packatard 400 Desklet Windows 95 and Windows 3.1 Driver Hendett Packatard 400 Desklet 8600C/692/C/693C/694C Windows 95 and Windows 3.1 Driver

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VIDEO "Video is simply great, [it] can deliver high-resolution true-color images" -PC Workt, 1/97-

The new 8MB H-VRAM Imagine 128 Series 2 graphics accelerator is here.

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Agauge Custom Control VBX Build great gauges, compasses, stopwatches, and pitch-and-roll controls.

CB Print Suite This collection of components adds comprehensive printing abilities to your Delphi apps.

Conversion Guide: C++ to Delphi Learn the ins and outs of converting C++ to Delphi.

Dcompress Library Incorporate these data compression and decompression routines based on an LZSS/Huffman procedure.

Delphi Knowledge Base Must-have info for the serious Delphi programmer.

Delphi Knowledge Base 2.1 Same name, different program. If you want answers to Delphi questions; draw on a wealth of know-how here.

Delphi Trial Edition Want to sample

Borland's impressive programming tool? Try before you buy.

Delphres Maintain resources, then compile them into linkable files.

Incredible Scrolling Credits Add the all-important fancy credits box to your Delphi application—complete with bouncing ball.

Quick Data Base Store and retrieve data with this "light" alternative to Delphi's data-aware tools.

TAnimated Quick-bake simple animations like exploding text or turning pages of a book.

TAwk Component Parse text and files with this prebuilt component. Even includes a Visual Basic—like patternmatching function.

TEnhTwain Painlessly acquire images from any TWAIN-compliant device with this application.

Video Card Drivers Speed up your system with the most current video card driver.

Crashie Laka 3D Biaster PCI Windows 55 Driver Crashie Laka 3D Biaster PKJ Windows YS and Windows NT Crashie Laka 5D Starker WA302 Windows 55 Driver Damind Edga 3D Driver and Utilities Damind TFr GL 1000 Windows 55 Driver Diamod TS gas Driver Ad 000 Windows 55 Driver Diamod TS gas Driver Ad 000 Windows 55 Driver Diamod TS gas Driver Ad 000 Windows 55 Driver Diamod TS gas Driver Ad 000 Windows 55 Driver Diamod TS gas Driver Driver Hearules Driver Driver Ad 000 Windows 55 Driver Hearules Starger VLP OW Windows 55 Driver Hearules Termingtor 64 WFEC Windows 55 Driver Mater Millemanue Windows 55 and Windows 17 Driver Maters Millemanue Windows 55 and Windows 17 Driver Maters Millemanue Prov Mindows 55 and Windows 17 Driver Nambox Mystage Windows 55 and Windows 17 Driver Nambox Mindows 75 and Windows 17 Driver Nambox Mindows 75 and Windows 75 Traver and Utilities Namber Windows 75 And Windows 75 Hawkey Driver and Utilities Namber Windows 75 Sarger VL Stawkey Driver and Utilities Namber Windows 55 Sarder Windows 55 Hawkey Driver and Utilities Namber Windows 55 Sarder Windows 55 Hawkey Driver and Utilities Namber Windows 55 Sarder Stawkey Driver and Utilities Namber Windows 55 Sarder Stawkey Driver and Utilities Namber Windows 55 Sarder Windows 55 Hawkey Driver and Utilities Namber Windows 55 Sarder Windows 55 Hawkey Driver and Utilities TCrypt Encrypt any file from your Delphi program.

TFileCrypt Component Demo Learn how to use the TFileCrypt Component with this sample program.

Tinstall Instant installation utility includes file copies and lets you add aliases to the Borland Database Engine application organ interface.

TResourceWatch Monitor Windows resources with this component for your Delphi applications.

TSpread Component Include spreadsheets in your Delphi projects with this full-featured component.

TTabListBox Do more with Delphi's TListBox component by allowing tabs in the list-box strings.

TVisAwk Parse text and files with cool visual feedback for users or for debugging. (But you must register to receive the source code.)

TVisAwk Demo See how this parsing program works.

WWWDDE Control Microsoft Internet Explorer or Netscape Navigator using DDE in your Delphi app.

Xceed Zip Compression Library This set of compression tools lets you manipulate ZIP files and use data compression in Windows apps.

Macromedia Director

CinéMac for Director Make screen savers in a snap from your Director movies.

Director and Databases Want to connect to a database from your movie? Read this ODBC-XObject primer first.

DLLGIue XDbject Create DLLs from your Director projects. Not for the novice.

Movie Utilities XDbject Must-have utilities for Director movie developers.

Popup Menu DLL Add pop-up menus to your movies. Easily controlled with Lingo script.

Print-D-Matic Need page-layout features? Get this.

PrintX Dbj Use this DLL to print multiple-page text, even with a footer.

SendEvent XObject Try out this XObject for monitoring mouse-clicks and keystrokes in your Director projects.

Sound Xtra Record and play WAVformat sounds from Director.

Tracing Projector for Windows Weed the glitches out of Director projects with this debugger.

Transition Tour Explore Director's 52 transition effects in this guided tour.

WinInfo XDbject Gain access to comprehensive Windows environment and system information with this DLL XObject.

Microsoft C/C++

Access Counter Count Web-page hits using this C++ CGI script.

Adaptive Communication Environment (ACE) Creating network or communications software? Download these powerful tools and libraries.

API Master In-a-nutshell online guide to writing C/C++ function calls for novices and experts.

C++ Coding Conventions Follow these coding guidelines to makeyour C++ code readable and streamlined.

C++ Programmer List Looking for the name of a C++ programmer? Start here.

Cgihtml Simplify CGI scripting with these public-domain Clibraries.

CGILib Pack your Web pages with power with this C++ library for CGI scripting.

Cocoon Generate code documentation in hyperlinked Web format.

Code Print Make your printed code readable with this powerful reformatting and printing utility.

Communications Networks Class Library (CNCL) Use these C++ classes to generate random numbers, statistics, and more.

C Tutorial Learn C basics with this straightforward guide.

CWP Object Oriented Optimization Library (CDDDL) Check out this library for developing optimization codes.

EasyCODE Edit and diagram structures with this cool utility.

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MemGuard Classes Emporium Use these cleanup classes to detect memory leaks, array-boundary violations, and more.

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SetTime Learn C++, Microsoft Foundation Classes and Winsock programming with this practical

Slider Custom Controls Emulate sliding interface elements with these tools-gauges, meters, controls, and more

Virtual Windows Class Library Consult these open libraries for tight, compact Windows code

Visual C++ 4.2b Technology Update Essential update provides Microsoft Internet Explorer and ActiveX support and bug fixes.

WarInstall Prepare apps for installation and distribution on the Net or CD-ROM.

WorldCom MFC Library Includes two customizable grid components and fontand color-selection property pages.

XPerCase Develop and document C++ programs.

Yet Another Class Library Got a thorny programming problem? Apply one of these prefab solutions.

Microsoft Visual Basic for Applications

Code Stylist/VB Format Visual Basic for Applications (VBA) code just the way you like it using this nifty utility.

Mailer This easy-to-use C++/CGI script lets you automatically mail form data.

MDB Maintenance Wizard Automate mutine Microsoft Access database

maintenance with this wizard-based tool.

Microsoft's VBA Authoring Guide Required reading for anyone who wants to automate Microsoft Office applications

Registration DB DLE Server DLL Access the Windows Registry from your Visual Basic apps with this 32-bit DLL.

Undated VBA232 DLL If your VBA232 DLL is getting you down, replace it with this undated file.

VBScrint 2.0 Is your VBScrint up to date?

Web Basic Plug-in (32-Bit) Use this plug-in to run WebBasic (Web VBA) apps in Netscape Navigator.

Win32 API Declarations for VBA If you're working with Visual Basic DLLs. download this essential list of declarations

Word 95 to Word 97 0DBC How to move your Word 95 ODBC applications to Word 97

WP Macro to VBA Guide Moving your WordPerfect macros to Microsoft Word? Let this technical guide give you pointers.

Miscellaneous Programming

ACGL++ Write CGL applications with this class library for Borland and Visual C++ 4.x.

Arsenal Extend the Windows Help system's abilities with this powerful DLL.

DemoBuilder Create interactive or selfrunning demos of Windows apps without a lot of fuss.

DiamondWare Sound Toolkit Add music, sound, and more to 16-bit and 32-bit apps written in C++. Visual Basic, Delphi, and more.

DTime Need some date and time functions? Let these MEC classes do the work for you!

DTWinVer Eliminates the guesswork in detecting which operating system version is running.

E for Windows Industrial-strength editing for programs and compilers.

FileZap Examine any file or disk in ASCII or hexadecimal format with this slick application.

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ForeHTML Quickly generate HTML Help files from Windows Help files.

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MiniHelp Plus Create full-featured Windows Help files with this quick. low-overhead editor

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D'Setuo 95 Generate set-up applications for any program, from Windows 3.1 to 95 to NT

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TracePlus32/Winsock 3.1 This application-level tool goes beyond simple API call monitoring and lets you diagnose Winsock work.

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BarBack for Windows Learn to bar-tend with a database of nearly 3,000 drinks.

Home Cookin Don't know what to serve with pot roast? Create your menu here.

Now You're Cooking Julia Child never had it so easy. Organize recipes, generate shopping lists, and coordinate menus.

SudsW 99 bottles of beer on the wall means 99 beer recipes: Organize them with this program.

Wine Cellar Book for Windows Keep a detailed record of your wine collection.

Education

365 Days of StarDate The perfect skywatching companion for amateur astronomers.

A.D.A.M. Essentials Inspire budding premed students—or review highschool biology—with this layer-by-layer tour of the human body.

DC Challenge Electronics Training System Don't know a circuit from a hole in the ground? Teach yourself all about electronics.

SkyMap Master the universe—or at least our solar system—with the help of this high-quality planetarium program.

TypingMaster Learn to touch-type with this tutor and speed-analysis program.

VectorJockey What goes up must come down: Learn about velocity and acceleration.

Where's Waldo? Exploring Geography Kids have fun searching for Waldo and learning about geography and different cultures.

Family

Baby Tracker for Windows They grow up so fast! Keep track of their development with this electronic baby book.

Chores and Rewards Motivate your kids to do their chores.

EZ-Tree Genealogy Research and record your family tree. My Wedding Companion Take the stress out of planning your wedding with this helper.

Pantheon Watch your family tree grow on your computer.

PC Baby Record the important firsts in your baby's life.

Health/Fitness

Aerosoft Fitness Log If you know it's working, you'll keep working out. Monitor your progress.

BodyComp 96 Do you dare? Use this tool to calculate your body fat.

Breathe Stop smoking now with help from this program.

Cross Trainer Get in shape the hightech way.

Diet Tracker Who needs SlimFast? Count calories and monitor your weightloss progress.

Fast Food 95 Learn more than you probably want to know about the fat and calorie content of fast foods.

GetFit 95 Use this tool to monitor daily caloric intake.

NutriGenie Total Nutrition Utilities to calculate your ideal weight and suggest how to reach it.

NutriSoft Weight Perfect Helps you slim down to your desired weight.

Household

3D Home Architect Build your family's dream home—on paper, anyway.

Car Book Plus for Windows Track car mileage and auto-related expenses.

E-Z Credit Kit Bad credit? Do your part to clear your name with this helpful application.

Grocery Consumer for Windows Cut down on extra trips to the store.

Household Register Maintain a detailed list of everything you own.

Multimedia Home Database for Windows Know your stuff: Organize and categorize your home inventory. Wealth Management System Watch your money grow (and keep your fingers crossed) with this personal investment and finance tracker.

ZLotto Ultra Still haven't hit the jackpot? Get a little help selecting lottonumber combos.

Music

A*B*CD Catalog your audio CD collection with this CD player/database.

AMF Intelligent Drgan/Synthesizer Play your favorites—this tool transforms your PC into an organ or a synthesizer.

DSTune32 Use this tool to tune your guitar accurately.

Juker Organize and play all your sound files in a specific or random order.

Mozart the Music Processor Move over, Wolfgang, Create and edit sheet music at your PC's keyboard.

Music Sculptor for Windows A fully functional MIDI sequencer.

The WinKaraoke Player C'mon, you know you want to—sing along with this Karaoke player for Windows 95.

Winsong Create and play musical notes on your computer without a special sound card.

Religion

365 Days of Bible Bits Read a different Bible verse every day of the year.

Acts of the Apostles Follow the apostles' travels with this interactive atlas.

BiblePro Study four translations of the Bible in one program.

Fall of Jericho Become familiar with this biblical event and have fun playing an animated Bible game.

God's Word for Windows Enhance your knowledge of the Bible with this definitive resource.

I Ching Empower Tool Ask the I Ching oracle your most pressing life questions and receive immediate answers.

In His Name Display Bible verses and images when you start your PC.

Study Tool: Kitab-i-Aqdas The Most Holy Book Explore the fundamentals of the Baha'i faith.

Sports

ADS League Manager Record statistics from your neighborhood sports teams and leagues.

Basketball Statistics Track real-time game stats on your notebook.

Dart Trainer Become the meanest darts player on your block with this computer coach.

Discover Karate 1 White Belt Discover the martial arts.

GolfScore Analyst for Windows 95 This statistics-keeper pinpoints the strengths and weaknesses in your game.

MESS-TB Customized Tournament Brackets Never draw brackets by hand again.

MicroFox Baseball Statistics for Windows Track ERAs, RBI, batting averages, and other key baseball statistics.

Ski Reports Know your slopes: Get daily ski reports for most major resorts in North America.

StatTrak for Hockey A solid statisticsmanagement system for a hockey league or individual teams.

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EDUCATION

SkyGlobe Planetarium The best astronomy program in the shareware universe.

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Memoir Tracker Simplify your life with this household PIM. Plus, store key details about every member of the family.

WEATHER

Tracking the Eye for Windows Easy-to-use program tracks tropical depressions, tropical storms, and humcanes.

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Eye on Sunrise Moonlight as a weatherperson.

GeoClock for Windows View daylight to darkness across world and local maps.

Storm '95 Hurricane Tracking Software DOS-based tool lets you track and study

Cool Stuff

Art and Wallpaper

ActivePix Automatically download Web images to use as desktop wallpaper.

Backdrop Create your own unique wallpaper schemes.

BackGroundScreen Select images from the Web as your wallpaper; this app handles all the dirty work.

Desktop Deluxe Gives you access to all the desktop themes available on the Internet.

Duke Nukem 3D Desktop Theme Put Duke Nukem on your desktop: Every icon, animated cursor, and sound effect from the hit 3-D action game is here.

Escher Prints Three BMP wallpaper sets of famous optical illusions by M. C. Escher: "Reptiles," "Drawing Hands," and "The Waterfall."

Logo Pack 1 A great selection of replacement start-up and shutdown screens for Windows 95.

Macintosh Windoz 95 Plus Theme Turn your PC into a Mac—in appearance, that is.

Picture Show Transform your desktop into a slide show. Rotate your favorite bitmap files as wallpaper or a screen saver.

Wallpaper Tile a wallpaper image, automatically change the image on start-up, or produce random or sequential patterns.

Wallpaper for Windows This compact program lets you install, manage, and edit wallpaper patterns without much fuss.

Windows 97 Startup Screen Fool your friends into thinking you already have Windows 97. hurricanes forming all over the world.

WetSock Check weather conditions and forecasts worldwide.

WinStorm Use this software to follow hurricanes all over the globe.

WinWeather Get the latest forecasts for your area from the Internet.

Windows WallPaperPlus Choose your own wallpaper format and image size.

Clip Art/Graphics

animal images.

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Choose from 101 pictures of custom

Camaros, Corvettes, Mustangs, and more.

Animal Clin Art Get a zooful of color PCX

American Graffiti with 62 PCX files of cars

and other images from the '50s and '60s.

Cruisin' Clin Art Revisit the world of

mathematical themes-perfect for

Military Images-Modern Military

Weanons More than 50 pictures of

People Clip Art A collection of 30 color

PCX images of people at work and play.

wedding images and two TrueType fonts.

Wedding Clip Art Say "I do" to 25

Weddings, Showers, & Invitations

You're invited to sample 25 full-color

images-bachelor parties, weddings,

American Indian Typeface Contains sample pictographs to use as clip art, as

Baby Blocks TrueType Font My first

Fonter View and print the fonts

Gallaudet American Sign Language

Font Displays sign-language symbols

installed on your computer.

font? This novelty font uses baby blocks

modern U.S. military weapons.

helicopters, and aircraft

and baby showers.

logos, and in calendars.

as its template.

instead of letters.

Fonts

Math Clip Art Clip art with

teachers and math tutors.

Microsoft Verdana TrueType Font Pack Four TrueType fonts especially for Web designers.

Morse Code Type 1 Font Encrypt documents the *really*old-fashioned way: Use this font to write in Morse code.

My Handwriting Convert your handwriting into a TrueType font.

Railroad Heralds Font All aboard! Grab this scalable typeface of 12 heralds (logos) from railroads like Burlington Route, Rock Island, and others.

Script and Calligraphy Fonts Ten TrueType script-style scalable fonts.

SmileyFace More than 90 variations, including traditional faces plus a smiling cat, fish, alien, computer, dog, and sun.

StarburstFont Spruce up your font collection with more than 100 excellent dingbats, including unique bullets and attention-grabbing background panels.

Stick Letters TrueType Font Whimsical stick figures superimposed over the letters of the Bodoni typeface alphabet.

Superfonts I Whatever you've got to say, these 65 headline fonts are perfect for posters, greeting cards, signs, ads, or logos.

Icons and Pointers

Animated Mouse Cursor Watch busy little mice execute all the standard commands: move, resize text, and more. Cheesehead Icons Set of three cursors for Green Bay Packers fans.

Dilbert Animated Cursor Every computer user's favorite comic character springs to life!

Drop Launcher A drag-and-drop icon for virtually any application.

Hard Disk Animated Cursor Would we make that up?

Jonas' Icon Collection Dress up your desktop with 350 color icons, including NBA and NFL teams, the Spice Girls, other celebrities, and logos.

RISS Icon Pak More than 2,001 icons for Windows, plus a handy icon file viewer.

Scotty's 256-Color I cons Elvis, Captain Kirk, Pee Wee Herman, the Marx Brothers, and Marilyn Monroe are among these 95 icons.

Ski's Icon Editing System Convert game graphics into Icons.

Warcraft 2 Icons Every character in the game is here among 32 icons.

X-Files Logo Icons The truth is out there. And so are the icons.

Practical Jokes

Backpack 3 Use these neat and funny BMP images as wallpaper to fool friends and coworkers.

Cat95 This cat chases the mouse cursor all around your desktop.

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ART AND WALLPAPER

365 Days of Off-the-WallPaper Paper your desktop with a different pattern every day for a year.

ICONS AND POINTERS

Star Wars Animated Cursors Use the Force on your desktop: Grab the best collection of *Stars Wars* icons out there.

SCREEN SAVERS

Kaleidoscope 95 Turn your display into a kaleidoscope with endless variations of color, movement, and shapes.

SOUNDS

Ted's Event WAVs for Windows #1 High-quality, professional sounds for your system events.

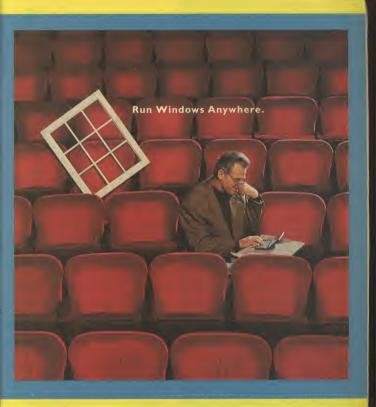
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1,001 Best Downloads: Cool Stuff and Games

Error A series of error messages, each one worse than the last.

Joke and Prank Two programs that resemble error messages (but aren't).

Prank A Windows trick that drags your desktop around.

Sic Pak Place it in an unsuspecting user's AUTOEXEC. BAT file to simulate a system crash.

Win Prank Keep your practical jokes fresh with this collection of different Windows pranks.

Screen Savers

Adrift Screensaver Quickly draws floating lines across the screen, creating a new, attractive pattern every minute.

Amazing AVI Screen Saver Liven up your screen with your favorite animations.

Animated 3D Objects Screen Saver I Create 3-D images for your desktop, then animate and configure them to your choice.

Chicago Bulls Screen Saver for Windows 95 Turn your computer into a virtual cheerleader for one of pro basketball's best winning teams.

Duke Nukem 3D Screen Saver Let Duke Nukem keep an eye on your monitor.

Golf Scenes Screen Saver Get a rotating view of the links you wish you were playing.

Hey, Macaroni Make your screen dance to this Macarena spoof.

Psychedelic Screensavers What a long, strange trip it's been: Decorate your display with shifting patterns from the Summer of Love.

ScrnSaveSwitch/Plus 95 Control your screen savers—patterns, intervals, and frequency.

Stardust Screen Saver Toolkit TE Put your artistic talent onscreen: Create and sell your own screen savers.

StarFlight Gaze at the stars—even during daylight—with this 3-D screen saver.

The Unofficial Quake Screen Saver The opening room of Quake, complete with the occasional teleported player.

Water Spots Screen Saver Raindrops are falling . . . on your desktop.

Sounds

Female Computer WAVs #1 Let a professional-sounding female voice announce your system events.

Railroad Sounds Realistic train sounds, including signal-bell clanging, whistle blowing, and metal on metal.

Ted's Clueless Valley Girl WAVs Oh, my, god, gag me with a spoon. Like, you can totally hear 17 sounds inspired by valley girls.

Ted's Event WAVs for Windows #2 Get your hands on even more high-quality sounds.

Ted's Event WAVs for Windows #3 Still want more? Here they are.

Ted's Male Computer Voice Event WAVs Welcome! Add Elwood "AOL voice" Williams's audio sounds to your system events. Goodbye!

Ted's Sci-Fi WAVs for Windows A collection of original sci-fi sounds for your system events.

WinChime Relax to the soothing tinkling of this virtual wind chime.

Miscellaneous Cool Stuff

365 Days of Conk A collection of strange but true stories and real-life headlines.

Abuser Insult friends, coworkers, and family members.

Catz Here, kitty kitty. Adopt a pet cat for your computer.

Celebrity Autograph Collector's Guide

Get advice, a printable mail tracker, and more than 10,000 television, movie, music, and sports celebrity addresses from this guide.

Cool Edit 96 This digital-sound editor for Windows 95 acts like a paint program for audio.

Fiction Writer's Reference Kit The cure for writer's block.

Greatest Paper Airplanes Letyour PC teach you how to fold extraordinary paper airplanes.

Multimedia Macarena Master Everybody's doing it. Join the mania and learn the Macarena with this multimedia tutorial.

Program X Chart and analyze

biorhythms, astrology, and numerology. Romance Writer Automatically creates short romances complete with lavish covers and curlicue typefaces. Eat your heart out, Fabio.

Games

Action

Amok Your mission: Destroy an underwater research lab. Along the way, lay waste to divers, sharks, and domes.

Death Rally Battle your way to the finish using your wits and weapons.

Destruction Derby 2 Metal-to-metal contact: Smash 'em up in 3-D.

Doom Annihilate hordes of demons in this classic 3-D shooting game.

Hyperblade Sharpen your skate blades and tape up your stick. This futuristic hockey game offers plenty of attitude and blood.

MDK As Kurt Hectic, you're the only one who can rescue humanity from the slavery imposed by the evil alien Stream Riders.

MechWarrior 2: Mercenaries You're a Mech for hire in this prequel to Activision's smash hit.

Redneck Rampage Help Leonard and Bubba retrieve a pig abducted by aliens. No kiddin'.

SkullCracker Vanquish the undead as a freelance zombie exterminator.

Adventure

Ace Ventura See the movie, play the game.

Bad Mojo Kafka meets 20th-century gaming—you turn into a cockroach and must regain your human form.

Meridian 59 Decide the fate of the world in an ancient land.

The Neverhood Immerse yourself in the strange, high-tech, clay-animated world of The Neverhood.

Obsidian Try to save your loved ones while trapped in a nightmare.

Tomb Raider: City of Vilcabamba Part 1 Join adventurer Lara Croft as she fights armed goons and works to solve the Atlantean mystery deep in the Peruvian rainforest. Tomb Raider: City of Vilcabamba Part 2 More adventures await you as Lara's exploits continue.

Arcade

3D Ultra Pinball 2: Creep Night Play 3-D pinball with goblins and ghouls.

Asteroid Mayhem Remember the classic? Play it again with enhanced 3-D graphics.

Beavis and Butthead in Virtual Stupidity The arcade segment of this

adventure game has you hocking loogies at passers-by.

Defender You'll wax nostalgic for the early-80s feel of this game as you zip along rescuing people and blasting aliens.

Epic Pinball Tilt and shoot for the high score in this superrealistic pinball game.

Mario Brothers VGA Before the movie and the cartoon, there was the game.

Mortal Kombat III Show off your moves in this popular fighting game.

Pac Man PC Relive your childhood: Play the original arcade classic with all the original sounds.

QBob A wacky arcade game that resembles the classic game QBert.

Sonic CD Direct Sonic's super stunts to overcome the evil Robotnik and his henchmen.

Auto Racing

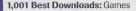
Bahn Put the pedal to the metal as you race at top speed down Germany's legendary Autobahn. The game's in German, of course.

Daytona USA Watch out, Dale Earnhardt. Feel the rush behind the wheel at this virtual Daytona speedway.

Monster Truck Madness Mud will fly as you roll your way to victory—and crush whatever's in your path—at the wheel of a super-powered monster.



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ACTION

Duke Nukem 3D Vaporize bloodthirsty aliens in postapocalyptic Los Angeles. Quake It's kill or be killed in this 3-D camage fest.

ADVENTURE

Diablo Choose a persona and enter a shadowy fantasy world.

AUTD RACING

IndyCar Racing 2 Experience white-knuckle speeds (200-plus mph) in an IndyCar cockpit. Choose among 15 tracks.

SIMULATIONS

Hind Climb into the cockpit of a vintage Russian Hind to fly against Uncle Sam's finest.

STRATEGY

Warcraft II: Tides of Darkness The battle for Azeroth continues over land, sea, and air in this fully functional six-level demo.

Need for Speed Race among the elite in an exotic speedster like the Lamborghini Diablo VT or the Porsche 911.

Sega Rally Championship No pavement required: Experience heart-pounding offroad racing.

Test Drive: Dffroad Take a wild ride in the world's hottest production four-byfour's.

Cards

Boxcars Casino Feeling lucky? Try this set of popular casino games, including blackjack, poker, craps, and baccarat.

Hardwood Solitaire II Solitaire is never dull (or lonely) in vibrant color.

Hearts Deluxe Challenge presidents, tyrants, and other fictional characters to a game of hearts.

Hoyle Classic Games You can't play just one. Choose from among the classics with this collection of ten card games. Magic: The Gathering It's no ordinary card game. Travel through magical Shandalar, building your deck and dueling your PC.

Pretty Good Solitaire What to play when you've outgrown Windows Solitaire. Sixty games to choose from.

Real Video Poker You'd swear you're belly up to a poker table in Vegas.

Ultimate Blackjack Learn as you play in this fully animated card game and gambling tutor.

Games for Kids

Aladdin Based on the Disney movie, this game's rich graphics will keep 'em entertained for hours.

Blobshop Splatter the wall with goo and win the game.

Cyberboard Kid Help Cyril Cyberpunk defend Earth from mutant teddy bears.

Farnsworth Ferret's Fun Pack for Kids Learning is fun with Farnsworth Ferret in five different games.

Freddi Fish and the Case of the Missing Kelp Seeds Help Freddi save the ocean's fish from starvation.

The Jetsons Space Race Late again? Help George Jetson get to work on time.

Toy Story Concentration A memory game that stars characters and music from the hit movie.

Where in the USA Is Carmen Sandiego? Discover the United States in a thrilling chase to stop crime.

Puzzles

Arcy 2 Cool graphics and mindboggling puzzles from Germany.

Art Quiz Jigsaw Puzzle Restore famous paintings in this jigsaw puzzle game.

Baku Baku An addictive Tetris-like game.

Hangman 2 Test your word power and save the stick figure from certain death in the electronic version of this old standby.

The Incredible Machine 3 Build a better mousetrap and other wacky creations in this puzzle game.

Jewel Master Imagine you're Robin

Leach in this Tetris-style game of the rich and famous.

Varmint's EITtris Kick your competitive nature into high gear with this game—another Tetris clone.

Simulations

1942: Pacific Air War Get a taste for air combat over the South Pacific in this noninteractive demo.

Advanced Tactical Fighters This hightech sequel to U.S. Navy Fighters has you flying futuristic planes.

Air Warrior II Go back in time as you pilot World War I, II, or Korean War aircraft. Spar against a computer opponent or online against friends.

Black Knight: Marine Strike Fighter Fly the most advanced tactical strike fighter in the United States.

F-22 Lightning II Take control of the Air Force's newest air superiority weapon the F-22—as you engage in missions against deadly adversaries.

Flight Unlimited Fly daredevil maneuvers in 3-D.

Silent Thunder: A-1D Tank Killer II Take on drug lords, terrorists, and dictators in this intense A-10 Thunderbolt II flight sim.

Sports

3-Point Basketball Shoot threepointers against top fictional basketball players like Shackle O'Deal.

FIFA 97 If soccer is your religion, here's your new place of worship.

Hard Ball 5 Great stats and world-class baseball action put this game in a league of its own.

Madden NFL 97 Expect state-of-the-art graphics and arcade-style game play in this glossy football favorite.

Microsoft Golf Tighten your grip and get ready to par.

Microsoft NBA Full Court Press Furious five-on-five action in all 29 NBA arenas.

NCAA Basketball: Final Four 97 The computer game for hoopsters who want realistic college-ball simulation.

NHL 96 Blood really does bounce on ice: Check out NHL hockey action. Trophy Bass 2 for Windows Angle for champion bass with friends around the world.

Virtual Pool Rack 'em up. This definitive pool sim is sure to improve your real game.

Strategy

Battle Chess 4000 Play hilarious, animated battle-chess with magical creatures—or choose 2-D mode for more subdued play.

Command & Conquer: Tiberian Dawn This one's not about politeness: Get ready for real-time thrills, spills, and kills.

Gazillionaire Deluxe A wild intergalactic trading game complete with bizarre aliens, exotic worlds to explore, and dangerous pitfalls.

Lords of the Realm II Dust off your armor and play the sequel to the classic medieval strategy game.

Panzer General Conquer the world as a German general in 1939.

Stars Engage in interstellar colonization.

Steel Panthers II: Modern Battles Battle tank-to-tank during World War II.

War Wind Become embroiled in this fiery, futuristic racial struggle in real-time.

Miscellaneous Games

Animated Slots You don't need to go to a casino to do a little gambling.

MVP Backgammon Have a pint while you play this pub-style backgammon game.

Banzai Bug Enjoy the adrenaline-filled flight simulation in which you pilot a bug.

Kali95 Transform the Net into a virtual LAN with this superpowered Internet gaming system.

QSpy Find the fastest Quake servers and know instantly how many players are logged on.

SimCity 2000 Build and manage a metropolis.

SimPark Beking of the jungle in your own wildlife park.

Contributors: LESLIE AYERS, JEEP HADFIELD, GORDON MEYER, SHANE MOONEY, DAVID SPARK, NATASHA WANCHEK, and GEOFFREY WILLIAMS.



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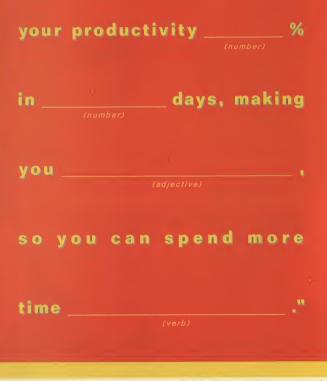
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about HTML or graphic design, you can build a professional-looking site in a matter of hours.

Microsoft Internet Explorer Home Page - Microsoft Internet F

To find out just how easy it is, *PC Computing's* Usability Labs tested three leading graphical Web

> publishers: Microsoft FrontPage 97 with Bonus Pack, Claris Home Page 2.0, and NetObjects Fusion 2.0 beta. (Netscape Communicator, the upgrade of Navigator Gold, was not available in time for our testing.) We asked our Websavvy testers to create a site from scratch using each of the three packages, which take different

Put your business on the Web in record time—no programming required!

BY BONNY L. GEORGIA

Address

Instant Home Pages

Got a few hours? That's time enough to build a basic but professional-looking Web site.

When it came to building a home page with text, a few graphics, and a link or two, our testers discovered that Claris Home Page 2.0 was best for the job. It earned passing marks for all four usability factors: formatting, importing, creating links, and updating links. Home Page made it easy to accomplish them all because its intuitive interface works like that of a word processor. For example, testers could immediately import images by dragging and dropping them into place.

A close second to Home Page for basic page design was Microsoft FrontPage 97. As with Home Page, its word processor-style interface made it easy

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Familiar Style: Claris Home Page looks and acts like a word processor.

to get started; but when it came to creating links, testers ran into some trouble



Claris Home Page 2.0



NetObjects Fusion 2.0



learning FrontPage's approach to linking. They also had difficulty completing many tasks with NetObjects Fusion 2.0, due in part to its confusing, cluttered interface.

If your Web publishing needs are limited to creating a few simple pages that will change very little, the affordable Claris Home Page is for you. But if you expect to make changes to your pages regularly or want to expand your site, it's worth spending a bit more for FrontPage's flexibility.

approaches to Web page creation. Claris Home Page, for example, is aimed at novice users who want to make basic pages. It has almost no site-management features and treats each page as a separate project, rather than part of an overall site.

Microsoft FrontPage 97, on the other hand, is a suite of Web publishing tools for novice and intermediate users. FrontPage treats your site as one cohesive project called a Web, rather than separate, stand-alone pages.

Our third package, NetObjects Fusion, is a more sophisticated package for those who want to create moderate-size sites. But you pay for the advanced features: Fusion costs 8495 compared with the \$99 Home Page and \$149 FrontPage, Like FrontPage, Fusion treats all your pages as part of a single site and includes tools for site management.

We asked our testers, who had no HTML experience, to determine which of the packages was easiest to use. First, our testers created a simple home page with some basic formatting and links. Next, they built a more complex page with multiple links (including one for e-mail) and advanced formatting like background images and borders. Finally, they tackled advanced sitemangement tasks. For each scenario they evaluated four factors: formatting, importing text and graphics, creating links, and updating links. For details on our usbility testing, see "from7age Wins," page 239.

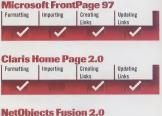
Claris Home Page 2.0 Proving it really is ideal for novices, Claris Home Page 2.0 earned the highest scores in productivity, satisfaction, and help in the first two scenarios, although its limited features put it behind Microsoft FrontPage in the second scenario. Our testers liked Home Page's straightforward interface and found linking pages more intuitive than with FrontPage or Fusion, although Home Page lacked some of the features that enhance dynamic pages. In the third's cenario, however, Home Page simply couldn't compete. It doesn't have the site-management features you need for building a complex site that

Dynamic Multilink Pages

Don't let'em leave. Keep visitors at your site by ramping up its level of sophistication. For our second scenario, testers created a page with advanced formatting features, including background textures, navigation bars, and e-mail links. Here, Nicrosoft frontPage 97 was the top choice. Testers especially appreciated the ability to import existing files by dragging and dropping them into FrontPage Explorer. Also popular were the ready-made WebBot CGI scripts for adding text searches, forms, and other interactive elements. And despite confusion over the difference between FrontPage Explorer and FrontPage Editor, testers found the powerful sitemapping and link-verification tools wort the extra

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Get It All Done: Microsoft FrontPage 97's To Do List helps you stay on top of growing sites. effort it took to sort them out. FrontPage did well on all four





tasks, but testers preferred NetObjects Fusion for adding graphics. They also found it easier to link pages and import. And drag-and-drop Fusion components like AutoFrames and MessageBoard let them easily add interactive elements to their pages.

While Claris Home Page has similar features, such as drag-and-drop tables, image maps, and frames, testers could not add interactive elements. Unlike FrontPage and Fusion, Home Page lacks CGI scripts and JavaScript helpers. If you want dynamic pages, FrontPage is the one to choose.

includes more than a couple of basic pages and links. Testers found the task of updating links in a complex site to be nearly impossible.

Overall, testers found Home Page easy to use, although they sorely missed some standard Windows features such as familiar online help files.

Microsoft FrontPage 97 While Home Page is a basic Web page publisher, Microsoft FrontPage 97 is a full suite of publishing tools. It includes FrontPage Editor for page creation, FrontPage Explorer for site management and planning, and Image Composer for creating custom artwork. Testers felt comfortable with FrontPage's familiar interface and formatting features, which are almost identical to Microsoft Word's. They also appreciated how easy it was to click and drag files into FrontPage Explorer to save them to their Web site. And it was remarkably easy to make links to e-mail addresses.

Still, FrontPage is not perfect. Though it excelled at importing text, testers had difficulty positioning imported graphics. They also struggled with adding links and were further frustrated when they couldn't find the answers they needed in online help. And some testers had trouble determining how and where files were saved in their sites. Still, despite these complaints, the majority of our testers chose FrontPage as the Web-publishing package they would buy for its ease of use and excellent features.

NetObjects Fusion 2.0 The third product our testers evaluated was a beta version of the powerful NetObjects Fusion 2.0. Not only was it the most expensive package at \$495, it was also the hardest for testers to use. The biggest problem they had with Fusion was its unfamiliar interface, which resembles that of a desktoo-publishing and page-layout program. Fusion treats all your Web page content as part of a single, large HTML-based table. Testers were able to easily drag and drog raphies onto a page because the table adjusts to hold the images automatcally. But testers found working with text cumbersome

Advanced Site Management

Stale sites are death on the Web. To keep your site alive, make sure your Web publisher shines at site management. Being able to easily add new content, as well as track and update links, is crucial to running a successful Web site. In our final scenario, testers evaluated the three packages at managing a moderate-size site.

FrontPage again proved to be the strongest of the three. FrontPage Explorer made debugging and updating Web pages easy. For example, with the click of a button, FrontPage checks all hyperlinks and fixes any that are broken. When testers were done updating the page, they posted the changes to their Web server with FrontPage's excellent Web Publishing Wizard.

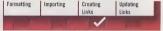
NetObjects Fusion also made a strong showing,



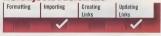
Power Publisher: NetObjects Fusion's SiteStyles Manager gives your site a consistent look. although testers stumbled when formatting and adding new links. But its

Microsoft FrontPage 97 Formatting Importing Creating Updating Links Links

Claris Home Page 2.0



NetObjects Fusion 2.0



unique features, like the SiteStyles Manager for global control over a site's look and the MasterBorders utility for placing buttons and logos consistently across a site, were popular with testers.

Claris Home Page simply could not compete in this scenario. Testers were not able to manage their site completely, since automatic site uploading and link testing are Home Page's only management utilities.

Although Fusion and FrontPage are both fully featured, FrontPage's

ease of use makes it the best choice for larger sites.

because of Fusion's system of distinct text boxes. When they edited text, Fusion didn't automatically resize text boxes. And when they imported text, Fusion replaced the existing content. Testers also disliked Fusion's crowded interface because toolbars and drop-down menus got in the way of page design.

While Fusion takes some getting used to, it also has several features that help you quickly create a site. Its large library of customizable templates makes it easy to establish a look, and its automated scripting tools let you add sophisticated features like feedback forms.

Help Wanted Despite friendly interfaces mean to shield your from HTML, our usability testers still found themselves wrestling with the limitations of the HTML code buried beneath the surface. For instance, several testers had difficulty formating text. The problems were related to HTML automatically inserting a line space after a paragraph break, not to a shortcoming of the software itself. Also, HTML needs all graphics as a single character within a line, which means precisely placing a graphic is more involved than simply dragging and dropping the graphic onto a page. All too often, the three packages failed to overcome or explain these HTML quirks in their help files, leaving testers frustrated.

Online help also failed to clearly explain the difference between creating individual HTML pages and an overall Web site. Both FromPage and NetObjects Fusion treat individual pages as part of a complete project, which simplifies Web site management. But when testers wanted to add links to pages that had not yet been saved to the current project, they ran into problems that they were often unable to solve.

Even with these limitations, using a graphical Web publishing package is as mart choice. You can create a slick-looking site—and make changes to it—without having to learn HTML. Simply spend a few hours designing your site, then post it to your company's Web server or upload it to your Internet service provider.



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FrontPage Wins

We brought three Web publishing packages—Microsoft FrontPage 97, Claris Home Page 2.0, and the beta version of NetObjects Fusion 2.0 into our Usability Labs and asked testers to create a series of pages from scratch. Our testers, who were experienced with the Web but not familiar with HTML programming, used the packages to build first a simple page with a few links, then a more complex page with multiple These factors were combined with ratings for productivity, satisfaction, and quality of help to determine an overall Productivity Index score. FrontPage scored a 9–high enough to earn our Usability Seal of Approval. Home Page and Fusion, however, did not merit the seal with scores of 6 each. Luur sezuvreum

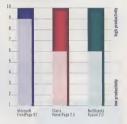


Cool Looks: Microsoft FrontPage 97 earned our Usability Seal of Approval thanks to features like its visual site navigation.

links and advanced formatting. Finally, they managed a moderatesize site with sophisticated formatting and links.

For each scenario, testers evaluated the packages on four key factors: formatting, importing text and graphics, creating links, and updating links.

Productivity Index



Top Web Publishers

Product		Price*	Pros	Cons	Unique Features	Verdict	
	Microsoft FrontPage 97 (800) 426-9400 Reader Service No. 718	\$149	All-in-one suite; integrates with Microsoft Office.	Online help could be better.	Import Wizard adds existing Web sites; hyperlink view displays all links between pages.	favorite combo: powerful, easy to use, and affordable.	
(800)	s Home Page 2.0 1544-8554 <i>er Service No. 719</i>	\$99	Straightforward interface; inexpensive.	No Web management features; weak help.	Drag-and-drop tables and hotlinking; graphics library.	creating basic Web pages.	
(888)	bjects Fusion 2.0 beta 449-6400 er Service No. 720	\$495 *ESTIMATED	Great customizable templates; strong site-management tools.	Cluttered interface; steep learning curve; high price.	SiteStyles Manager for control over a site's look; MasterBorders for navigation buttons.	And plenty of cash required if you plan to use this powerful tool.	

thinks Excellent think Good the Acceptable the Poor & Unacceptable

Final Analysis: Web-Site Wizards

Get Published

You don't have to be a full-time Webmaster to build and manage a successful site. These packages prove it.

Microsoft FrontPage 97 earns our Usability Seal of Approval for its milliar interface and sophisticated tools. Despite its insufficient help and confusing save feature, FrontPage put testers more at ease than any other product. An integrated suite of utilities for building, publishing, and managing your site. Front-Page is simple enough to create complex sites with relative ease, but powerful enough to provide support for professional Web publishing needs.

Coming in a close second to FrontPage for productivity and satisfaction, Claris Home Page 2.0 pleased our testers with its intuitive editing tools and no-nonsense approach to building links. Though it lost points for its minimal site-management tools and incomplete help, Claris Home Page is an effective and inexpensive choice for building personal home pages or simple small-business sites.

While FrontPage and Home Page are perfect for creating a few pages or a simple site, NetObjects Fusion 2.0 is a breakthrough product that makes the most sense in the hands of professional site designers. Fusion's desktop publishing layout gave testers precise control over the graphic elements of pages, but was somewhat clumsy for text-importing and formatting tasks. Fusion lets you add advanced page elements like HTML frames or JavaScript in a snap, and the SiteStyles Manager helps you give your site a consistent look. However, to reach those who want only basic Web publishing, Fusion needs a lower price, a more accessible interface, and improved help.

The next version of Claris Home Page (due out this summer) promises more site-management tools; and you can expect to see improved usability in the next version of NetObjects Fusion. In the meantime, Microsoft FrontPage 97 is the one to buy.

BONNY L. GEORGIA is a freelance writer based in Massachusetts. Lab testing was performed by LULIT BEZUAYEHU, LYDIA KARLOWICZ, and ANDRÉ LEACH.



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- · Altec ACS-290 Speakers with Subwoofer
- · 33.6 U.S. Robotics Telephony Modern
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- * Upgrade to a 4.3GB Hard Drive (9.5ms), add \$75.



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- * Upgrade to Altec ACS-290 Speakers with Subwoofer, add \$75.



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- · BOOHS Trinitron Monitor (13.7' v.i.s.)
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- Subwoofer
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- * Upprade to Altec ACS-490 Full Dolby
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- Common features listed above plus:
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- · 40MB RAM/2.1GB Hard Drive
- · NEW PCI Bus with 128-bit Graphics
- MS Office 97 Small Business Edition · 2nd Lithium Ion Battery

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Business Lease: \$144/Mo.

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pentium

- * Upgrade to 72MB RAM, add \$299.
- * 3Com LAN+ 33.6 Modem PC Card, add \$349.

NEW DELL LATITUDE LM M166ST 166MHz PENTIUM PROCESSOR WITH MMX TECHNOLOGY

Common features listed above plus:

- 12.1" SVGA Active Matrix Color Display
- 24MB RAM/2.16B Hard Orive
 - · NEW PCI Bus with 128-bit Graphics Accelerator with 64K Colors
 - MS Office 97 Small Business Edition
 - ★ Upgrade to 40MB RAM, add \$199.
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NEW DELL LATITUDE LM M166ST

166MHz PENTIUM PROCESSOR

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- TCO Compliance
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- Maximum Resolution TCO Compliance Professional Series

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CD-ROM in Overdrive

Don't write them off yet. Today's drives and changers are ultrafast, ultracheap—and it's easy to burn your own discs.

BY MARTY JEROME

Here's to the last CD-ROM drive you'll ever buy. Your next upgrade will be a DVD-ROM drive, but for now we re still waiting for DVD applications. Until drive, every dring from workaday productivity programmetumultimedia reference to nucleating from CD-ROM drive can muster. Now in its golden years, the technology reaches stunning throughput approaching that of your hard drive. And whether you're looking for a single drive, a multiclisc changer, or a CD-recordable drive, we'll show you the were best in price and performance.

Reviews: 8X, 12X, and 16X CD-ROM Drives

CD-ROM

Fast and Affordable

Forget a CD-ROM's X rating. A drive's advertised speed doesn't always reflect its true performance. After running 14 drives-8-speed, 12-speed, and 16speed models-through a series of tests, PC Computing's Labs proved that 16-speed drives don't necessarily outperform 12-speed drives. Both, however, outpace 8-speed drives, (See "The X Factor: When 12X Is Faster Than 16X," page 248.)

Toshiba America's fiery 12-speed XM3801B takes top honors for overall performance. Credit goes to its 256K cache and SCSI interface. Also, the drive uses Partial-Constant Angular Velocity, a new technology that boosts access times when the drive reads the outer third of a disc, where performance typically lags. At \$290 it's not the cheapest of the lot, but it has a decided performance edge.

Tempting Trade-offs You can shave more than \$100 off the Toshiba's price, yet sacrifice only a little in performance with Pioneer's 12-speed DR-444. In our tests, the Pioneer's access times were actually a tad faster than the Toshiba's. (Actual access times as tested in PC Computing's Labs sometimes differ from the vendor's ratings.) If the Pioneer had a bigger cache (it comes with only 128K), it probably would have performed on a par with the Toshiba. No matter: Its low price and high performance make it our top pick overall.

Sony's 16-speed CDU511, which is sold only preinstalled by system makers, was slightly slower

Performance: CD-ROM Drives

Toshiba XM3801B (12X)	Market inter
Pioneer DR-444 (12X)	Mar. Law
Sony CDU511 (16X)	State Com-
Teac CD-516E (16X)	411 100
Plextor 12 Plex PX-12SCi (12X)	800 g (g)
Creative Labs Blaster CD 1800 (12X)	2011/100
Micro Design SCSI Express CD12X (12X)	Station .
Hitachi CDR-8130 (16X)	Number of Street, Stre
Samsung SCR-1231 (12X)	States.
Diamond 12X Multimedia Kit (12X)	William
Teac CD-512E (12)()	235 of mark
LG Electronics GoldStar GCD-R580B (8)()	2X, Dame
Panasonic LK-MC608S (8X)	\$50000
Samsung SCR-831 (8X)	n In

NOTE CO-ROM WINNINK 56 IS A TEST THW. MEASURES CO-ROM DRIVE PERFORMANCE UNDER WINDOWS 35

Surprise! In overall performance, 12-speed drives from Toshiba and Pioneer edged out ultraspeedy 16-speed drives from Hitachi, Sony, and Teac.



it delivers the best price-performance combo you'll find.

than the Pioneer and costs \$20 more. But it's a good choice if you want an EIDE drive. So is Teac's 16speed CD-516E, which costs \$50 less than than the Sony CDU511, yet trailed its performance by a single percentage point.

Among SCSI drives, Plextor's 12-speed 12Plex PX-12CSi turned in fast access times. Its overall performance was admirable, and its \$289 price includes an Adaptec SCSI controller card. Panasonic's 8-speed LK-MC608S, on the other hand, turned in dismal performance scores given its SCSI interface. At \$319 without a controller card, it's clearly a dated design. So is Micro Design's 12-speed SCSI Express CD12X, which at \$437 is curiously overpriced.

Drive Deals The best news about today's speedy CD-ROM drives is price. Bargains abound. Hitachi's 16-speed CDR-8130 turned in the fastest access times, but its small 128K cache hurt its overall speed. Still, at \$130 it's a no-brainer for speedy performance on a tight budget.

Diamond Multimedia's \$349 12X Multimedia Kit may seem expensive at first blush, but it's a complete package that includes a sound card, speakers, and a superb software bundle. We only wish the drive's performance were better. Likewise, Samsung's 12speed SCR-1231 could use a jolt in speed, but at \$125, how can we complain? Kudos to the Samsung's audio ports on the back of the drive for both digital and analog signals. The drive is certainly a better deal than its 8-speed sibling (the SCR-831), which, although \$40 cheaper, is the slowest drive we tested.





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Top CD-ROM Drives

Product	Price*	Spead	Interace Is	Access films	Pros	Cons	Verdict
Pioneer DR-444 (800) 444-6884 Reader Service No. 687	\$179	12X	SCSI	100ms/ 128K	Fierce performance; aggressive price.	A skimpy cache; complicated SCSI interface.	The best price and performance combo.
Hitachi America CDR-8130 (800) 448-2244 Reader Service No. 688	\$130	16X	EIDE	90ms/ 128K	Solid performance; superb price.	A larger cache would make performance stellar.	High performance for tight budgets.
Plextor 12Plex PX-12CSi (800) 753-9816 Reader Service No. 689	\$289	12X	SCSI	105ms/ 512K	Admirable speed; big cache; interface card included.	Do you really want to install a SCSI device?	A SCSI speedster- adapter included.
Samsung SCR-1231 (800) 933-4110 Reader Service No. 690	\$125	12X	EIDE	150ms/ 256K	Respectable performance; unbeatable value.	No manual eject button.	देवेंद्रे Costs less than your last client dinner.
Sony CDU511 (800) 352-7669 Reader Service No. 691	\$199	16X	EIDE	105ms/ 128K	Blazing performance; easy installation.	Middling price; skimpy cache.	Smoking speed—an all-around solid drive.
Teac America CD-516E (213) 726-0303 Reader Service No. 692	\$149	16X	EIDE	150ms/ 128K	Excellent performance; excellent price.	Stingy cache.	Fast and cheap 16-speed pick.
Toshiba America XM3801B (714) 457-0777 Reader Service No. 693	\$290	12X	SCSI	99ms/ 256K	Fastest CD-ROM drive we tested.	Fussy SCSI interface.	मेनेके If only the fastest will do, get this drive.
Creative Labs Blaster CD 1800, (800) 998-5227 Reader Service No. 694	\$180	12X	EIDE	150ms/ 256K	Excellent audio controls; good software bundle.	No manual eject button.	A solid middle-of- the roader.
	* ESTIMAT	ED STREET PI	RICE				

***** Excellent ***** Good *** Acceptable ** Poor * Unacceptable

The X Factor: When 12X Is Faster Than 16X

The salesman who sold you that 16-speed drive promised it was the fastes to ne available. So why are 12-speed drives outpacing it? Before you threaten to pummel the guy with the 16-speed drive he sold you, take a deep breath. Yes, some 12-speed drives outperform 16-speed drives. But your salesman didn't deceive you.

Until very recently most CD-ROM drives used a method called Constant Linear Velocity (CLV) to access data. This technique varies the rotation speed of the disc: It rotates faster when accessing the inside tracks and slower when reading outside tracks, where more data is packed onto a single track. If the speed didn't reduce as the head moved outward, data would zip by faster than the drive's digital signal processor (DSP) could read it.

These changing speeds cause delays as the read head waits for the drive to speed up or down. To reduce the overhead of changing spin rates, some drives now incorporate Constant Angular Velocity (CAV) technology. CAV spins the disc at a constant speed as the head moves across the disc, resulting in increased speed as the head moves from the center to the outside of the disc.

Tag-Team Technologies Some CD-ROM drive makers use a combination of both technologies called Partial-CAV (P-CAV). This method employs CAV when reading data from the inner two-thirds of the disc, then switches to CLV for the outer areas of the disc. The combination causes data-transfer rates to vary across the disc. slower rates when reading the center section, but faster rates when reading the outermost tracks. In some cases, a drive performs even faster than its X rating when reading outside tracks.

The X speed advertised by some manufacturers may

Product	Price*	Speed	Interface Juge	tecters line	Pros	Cons	Verdict
Diamond Multimedia 12X Multimedia Kit (800) 468-5864 Reader Service No. 695	\$349	12X	EIDE	130ms/ 256K	Great multimedia bundle—sound card, speakers, and software library.	Unimpressive performance.	A fair upgrade package if your system needs audio, too.
Samsung Electronics America SCR-831 (800) 933-4110 Reader Service No. 696	\$85	8X	EIDE	150ms/ 256K	Least expensive of the lot.	Bottom-of-the- barrel performance; no manual eject button.	Get the 12-speed model for just \$40 more.
Teac America CD-512E (213) 726-0303 Reader Service No. 697	\$149	12X	EIDE	150ms/ 128K	Good price.	Lackadaisical performance; skimpy cache.	Its faster sibling is a far better buy.
LG Electronics GoldStar GCD-R580B (800) 243-0000 Reader Service No. 698	\$129	8X	EIDE	140ms/ 128K	Aggressive price.	Yawning performance; stingy cache.	Wait for the upgrade
Micro Design Int'l SCSI Express CD12X (800) 228-0891 Reader Service No. 699	\$437	12X	SCSI	115ms/ 256K	Relatively painless installation for a SCSI device.	Average performance; shocking price; external drive.	Better deals abound.
Panasonic LK-MC608S (800) 742-8086 Reader Service No. 700	\$319	8X	SCSI	150ms/ 256K	Fine hand-holding for the SCSI-wary.	Sluggish eight- speed performance; yesterday's design; external drive; controller card not included.	☆☆ We'd prefer this drive in a size 12X.
	* ESTIMAT	ED STREET P	RICE				

***** Excellent **** Good *** Acceptable ** Poor * Unacceptable

be the transfer rate for only the outside tracks of a disc because this is where you get the best performance. However, data is burned onto a CD from the inside out, so the drive rarely reaches its rated speed. Some drive manufacturers have chosen to forgo P-CAV, and use just CAV to make the read speed the same across a CD. These drives may not sport the highest X ratings, but they often outperform higher-rated drives.

Get Control Your drive's interface also plays a role in throughput. SSO controllers of fiolad a lot of the work routinely handled by your system's CPU, thereby leaving if free for other chores. And SCSI drives typically boast faster performance when using multimedia apps and when multitasking. The trade-off? You generally pay more for a SCSI drive up front, although our top-rated drive, the Pioneer DR-444, is an exception. Also consider SCSI's added complexity, compared with the more

Performance: CD-ROM Drives



NOLE CO-REMANNANTS (5) IS A TEST THAT MEASURES CO-REM DRIVE PERFORMANCE UNDER WINDOWS 16 All DRIVES TESTED ON A DELL DWENSION XPS W200

Speed 'Em Up: P-CAV helps 12-speed drives like Toshiba's XM3801B outperform 16-speed drives.

affordable and easy-to-install Enhanced IDE interface. Sound confusing? There's more: The type of

CD-based applications you use also affects your drive's throughput. Meanwhile, next-generation DSPs will have drives spinning faster still—so hold on for the ride.

Reviews: CD Changers

Hold Everything

Here's a cure for carpal tunnel syndrome: Stop chasing CDs in and out of your system's drive tray. Store them in a CD changer instead. Having up to 4GB of information just a mouse click away is a revelation in productivity—not to mention less strain for your wrists.

If you think the cost of changers is prohibitive, consider that prices have plaqued over the last three years. Four- to six-disc models typically cost less than \$500. And as *PC Compating's* Labs discovered with the five internal and external changers we tested, you may sacrifice performance, but you gain a lot in the way of convenience. So why settle for a drive that holds only one disc when you can have one that accommodates as many as six?

Stack 'Em The Panasonic 10X Big 5 is a case in point. The only 10-speed drive in this roundup, its performance sailed past every other changer we tested—by more than 100 percent in some cases. This is particually surprising considering it's the only unit among this group to use an EIDE interface. Although EIDE makes a drive easier to install, it's typically a performance handices compared with a SCM interface.

This internal EDE drive was a breeze to install. You can have the five-disc Panasonic up and running in less than 15 minutes. EDE also lowers the cost. At \$249, the Panasonic is one of the cheapest changers of the lot-cheaper, in fact, than many comparable single-disc drives. Kudos to the bundled software, which lets you view the device as a single drive or assign five separate drive letters. Make no mistake: The Panasonic 10X Big 5 is the price-performance leader.

At \$249, Nakamichi's internal 8-speed MJ-4.8s costs the same as the Panasonic and comes bundled with an Adaptec SCSI-2 controller card. Installation was relatively painless thanks to Plug and Play— Windows 95 recognized the drive immediately and assigned separate drive letters to the four dise trays.

Performance: CD-ROM Changers



NOTE: CO-ROM WIMMARK 95 IS A TEST THAT NEASURES CO-ROM ORIVE PERFORMANCE UNDER NUMDOWS 95 Al orives tested on a dell omension aps n200

Quick-Change Artist: Even with an EIDE interface, Panasonic's 10-speed changer roared ahead of the pack in overall performance.



affordable CD changer, look no further than Panasonic's \$249 10X Big 5. It's also the easiest to mstall and put to work.

With better performance and another disc tray, the Nakamichi would be a fair alternative to the Panasonic 10X Big 5.

Spin 'Em' Smart and Friendly's external 8-spect CDJ 4008 CD-SOM Jukebox was second to the Panasonic in overall performance—although by a considerable margin. Still, it is pleasingly compact and has an excellent bundle, including an Adapter SCSI adapter and a fine collection of software. You get Adapter's CD Power' Tools and utilities for building a database of CDs, assigning drive letters, and playing adiod diss. If you prefer to save a drive bay by getting an external model, this \$399 CD changer should be on your shortlist.

Pioneer's \$475 DRM-624X costs more than the Smart and Friendly drive, but it's the only changer we tested that holds up to six discs. Problem is, it's only a 4.4-speed drive. Performance was good considering the dated technology; it was third fastest overall. The Pioneer comes with an Acculogic controller card, but be prepared for stubborn installation. Even so, it's a good external changer for juggling lots of CDs.

Micro Design's external four-dise SCSI Express SE4CD8X occupies a dubious place in this roundup. It's expensive (226), yet is performance lagged considerably behind all the other changers we tested. The price includes neither a controller card, nor much else in the way of software or multimedia. Just about any way you look at it, there are better changers for less morey.

Top CD Changers

Product	Price*	Speed	Card Included	No. ar	Internal or	Access lin	Pros	Cons	Verdict
Panasonic 10X Big 5 (800) 742-8086 Reader Service No. 701	\$249	10X	None	5	Internal	130ms/ 128K	Best performance; lowest price; easy installation; great bundled software.	What more could you ask for?	The best changer for the money, hands down.
Smart and Friendly CDJ 4008 CD-ROM Jukebox (818) 366-6001 Reader Service No. 702	\$399	8X	Adaptec AVA-1502 ISA-to- SCSI Host Adapter	4	External	150ms/ 256K	Fine performance; convenient footprint; excellent software.	Fussy installation; middling price.	If only an external changer will do, this should be on your shortlist.
Nakamichi America MJ-4.8s (310) 538-8150 Reader Service No. 703	\$249	8X	None	4	Internal	150ms/ 256K	Easiest SCSI installation of the lot; lowest price.	Weak performance.	Better performance and room for an extra disc would give this changer an edge.
Pioneer New Media Technologies DRM-624X (800) 872-4159 Reader Service No. 704	\$475	4.4X	Acculogic ISApport/ 10P	6	External	150ms/ 128K	Largest disc capacity; remarkable performance for a 4.4-speed drive.	It's still a 4.4-speed drive; stubborn installation.	When disc capacity matters more than performance, consider this changer.
Micro Design Int'l SCSI Express SE4CD8X (800) 228-0891 Reader Service No. 705	\$726	8X	None	4	External	150ms/ 256K	Easy installation despite the SCSI interface; smart push-button disc loading; optional NT package.	Pitiful performance; unrealistic price.	会体 You can do better.
	*ESTIMAT	ED STREE	ET PRICE						

****** Excellent **** Good *** Acceptable ** Poor * Unacceptable

DVD vs. CD-ROM: Is CD-ROM Dead?

Thanks to DVD, CD-ROM's days are numbered—the marketing drum promoting DVD technology is downright mesmerizing. But for now, CD-ROM still dominates the market due to its lower prices and because it is the common media for most apos.

DVD's advantages speak for themselves.² Each DVD disc holds 4.7GB of data—seven times the capacity of today's CDs. And eventually they'll hold up to 28 times what a CD holds. In other words, a DVD disc holds an entire two-hour, full-motion movie with subtile tracks, surround-sound audio, parental controls, and multiple languages. A copynight scheme has already been adopted by maior motion-poicture studios.

DVD drives cost more than conventional CD-ROM drives—between \$500 and \$700 for 8-speed and 10-speed models. But within a year, prices will drop by a third. What's more, they're entirely backward compatible with today's CD-ROM drives. And the formats for DVD drives and DVD players (which work with your TV) are exactly the same, making the discs interchangeable.

Still not convinced? DVD-recordable drives tentatively called DVD-RM-are already in the works. The initial capacity of discs created on these drives will be only 2.6GB. But unlike CD-recordable discs, DVD-RAM discs will be erasable. This provides enormous flexibility for backing up, archiving, and transporting large amounts of data.

Few technologies hit the market assured of dominating the industry-this is one of them. The question isn't whether DVD will be a part of your future; it's when you'll make the conversion.

Reviews: CD-Recordable Drives

Burn Your Own

Five years ago only the bravest businesspeople burned their own CDs. A basic CD-recordable (CD-R) drive cost more than \$10,000, and even the best software made recording CDs a torture session.

How things change. Three of the eight CD-R drives in this rounduc cost less than \$500 and they all cost less than \$1,000. Performance has jumped too: All eight read CDs at quad-speed or six-speed, and record at double-speed or quad-speed. (The sheer size of the read-write heads makes it unlikely that we'll see 12-speed or 16-speed CD-Rs anytime soon) And thanks to helpful wizards and refined interfaces, anyone can create a CD in minutes though it's certainly not a foolforoof process.

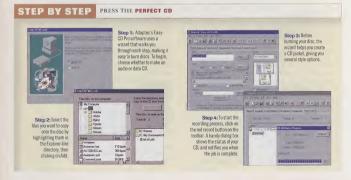
Easy Does It Creative Labs' internal Blaster CD-R 4210 demonstrates how far the technology has come. The Blaster CD-R costs \$499—the price includes an Adaptec SCSI controller as well as Adaptec's E2 Backup and Easy-CD Pro, the best recording software on the market. The Blaster CD-R is so affordable and easy to use, you'll want to press your business presentations on CD, create your own audio discs, and use it with a keyboard scanner to archive every paper document that crosses your desk.

Installation was surprisingly simple even though, like all the recorders we tested, the Blaster CD-R is a SCSI device. And it turned in the best overall performance scores for reading CDs, though writing



performance was less impressive. Affordable, hasslefree, and fast-it's what all CD-Rs should be.

Record Time Of course, if you need to burn lots of large files on CD, you want all the performance you can get. Teae's CD-R505 4X4 CD-Recordable boasts the fastest record performance overall. It comes



Top CD-Recordable Drives

Product	Price*	Solitied Solitied	Enemal of	Seen (Recording	Pros	Cons	Verdict
Creative Labs Blaster CD-R 4210 (800) 996-5227 Reader Service No. 706	\$499	Adaptec Easy-CD Pro, Adaptec EZ Backup	Internal/ 1MB	2X/4X	Stellar read performance; excellent bundle; superb value.	Sleepy recording performance.	Easy and inexpensive CD publishing—the way it ought to be.
JVC Personal Archiver Plus System (714) 816-6500 Reader Service No. 707	\$499	Personal Archiver Software, CD-R Extensions	External/ 1MB	4X/4X	Bargain price for the speed; fine record performance.	Weak software bundle.	A good value, but buy your own software.
Smart and Friendly CD-R 2006/Pro (800) 959-7001 Reader Service No. 708	\$499	Adaptec Easy-CD Pro, MediaPath MediaAgent	External/ 512K	2X/6X	Decent record performance; rich software bundle.	Slow read performance.	Great software at a price you can afford.
Teac America CD-R50S 4X4 CD-Recordable Drive (213) 726-0303 Reader Service No. 709	\$799	CeQuadrat WinOnCD 3.0	Internal/ 1MB	4X/4X	Superb performance across the board.	Pricey; weak software bundle.	If speed matters more than price, this one is for you.
Hewlett-Packard SureStor CD-Writer 6020 (800) 826-4111 ext. 2268	\$599	Adaptec Easy-CD Pro, Alchemy	External/ 1MB	2X/6X	Sleek looks; excellent read performance.	Pricey when you consider there's no adapter card.	Fine if you already own a SCSI adapter.
Pinnacle Micro RCD 4X4 (800) 553-7070 Reader Service No. 710	\$899	Adaptec Easy-CD Pro, Disc Archive95	External/ 1MB	4X/4X	Stunning record performance; breezy installation.	Most expensive of the bunch.	A hot performer, but not a great deal.
Plextor PlexWriter 2/4 (800) 753-9816 Reader Service No. 711	\$569	Adaptec Easy-CD Pro	Internal/ 512K	2X/4X	Polished design; solid bundle.	Lazy performance.	A fine, if lackadaisical, drive.
Microboards PlayWrite 2040 (800) 646-8881 Reader Service No. 712		Elektroson Gear MultiOS	External/ 2MB	2X/6X	Big 2MB cache.	Slow performer; weak software bundle.	Better deals abound.

think Excellent think Good thin Acceptable the Poor & Unacceptable

with an AdvanSys PCI SCSI controller and CeQuadrat's WinOnCD 3.0 record software, which is a capable package but more difficult to master than Adaptec's Easy-CD Pro. But the price for this stellar performance is steep: \$799.

Pinnacle Micro's \$899 RCD 4X4 is even more expensive, but it comes with an Adaptec SCSI controller and Easy-CD Pro, and was only a bit slower than the Teac. On the other hand, it's an external unit, which saves you a drive bay. And installation was a breeze.

Too rich for your blood? Like Creative Labs' Blaster CD-R, JVC's external Personal Archiver Plus System costs only 5499. Its record performance was respectable for a quad-speed drive, though its quad-speed read performance was middling. With the money you save you can upgrade from the somewhat arcane Personal Archiver Software and CD-R Extensions that come bundled with the drive to something easier to use, such as Easy-CD Pro.

Smart and Friendly's CD-R 2006/Pro and Hewlett-Packard's SureStor CD-Writer 6020, both external drives, cost \$499 and \$599, respectively. Both recorders offer double-speed write and six-speed read times, yet the CD-R 2006/Pro performed slightly faster than the SureStor in writing chores, and considerably slower in reading tasks. Even so, the HP SureStor doesn't support Whitebook and PhotoCD file formats; except for the Microboards PJaWrite 2040, every other drive supports them. Overall, the Smart and Friendly is the better of the two. Its excellent software bundle includes Adaptee's Easy-CD Pro, MediaPath MediaAgent, Packet Recording, and Macromedia Backstage Designer Pro.

The entries from Microboards and Plextor both earned poor performance scores, yet they're priced on the high side. Microboard's external PlayWrite 2040 (S559) ships with Elde. troson's difficult Gear MultiOS software and no SCSI adapter. Plextor's internal PlexWrite 2/4 (S569) comes with an Adapte SCSI adapter and Easy-CD Pro. It's definitely the better of the two.

Finally, we recommend upgrading drives with ISA controllers—those from Creative Labs, JVC, Pinnacle Micro, Smart and Friendly, and Teac—to a faster PCI controller for optimal performance when recording.

Final Analysis: CD-ROM Drives, Changers, and Recorders

CD Solutions

Just try to live without one. A slow and quirky peripheral only five years ago, the CD-ROM drive is now as essential to business computing as the hard drive.

Whether you're buying your last stand-done drive or CD changer bfore DVD fnally arrives, or you need a CD-recordable drive to create your own discs—price, performance, and usability should be your key considerations. And bear in mind that performance isn't reflected simply in a drive's rated speed. You have to dig deeper.

Pioneer's 12-speed DR-444, for example, outperformed all but one drive (the ultraspeedy Toshiba XM3801B) in our roundup. Its excellent SGSI performance would have made it our winner regardless, but its \$179 price tag sweetens the deal and makes for quick depreciation as you wait for DVD.

As CD changers go, you won't find one that's faster or cheaper than Panasonic's 10X Big 5. Its performance—which owes partly to the fact that it's the only 10-speed changer in this roundup—had our lab testers scatching their heads in amazement. Yet at 249 it's the cheapest model on the block. It manages five discs, while most changers handle only four. And its bundled software is mercifully easy to use.

Although CD-recordable drives can't deliver the performance of read-only drives, we've seen a doubling—and in some cases a quadrupling—in speed compared with drives only a year ago. And yet with that extra performance, prices have actually gone down. When buying a CD-R drive you have to consider the whole bundle in terms of usubility: the adapter card, performance, and software.

For these reasons we gave Creative Labs' Blaster CD-R 4210 to phonors. At S499 it's one of the cheapest CD-R drives you'll find, and it comes with Adapte's SCSI adapter and Easy-CD Pro software, witch is quickly becoming the industry standard. And its performance for reading CD-B is top-norch. It's an excellent package all the way around. So if you've been reluctant to buy a CD-R because of the cost, hassle, or performance, you're out of excusse.

Lab testing was conducted by IBRAHIM GUL, HAL HABERMAN, and JOHN RYAN.



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Windows 95 page 261

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Rebuild & Optimize Registry for maximum performance	YES		-	
Optimize Hard Drive (N&B Disk Tune is up to 5x faster)	YES	YES		-
Clean up Hard Drive	YES	YES	-	YES
Provides Detailed System Info	YES	YES		
Emergency Rescue & Recovery	YES	YES	Minimal	Minimal
Hardware Diagnostics	YES	DOS only	-	
System Monitor	YES	YES	-	
Crash Recovery	YES	YES	YES	YES
Crash Protection	YES			
Easy System Configuration	YES	YES	-	-
Zip/Unzip files	YES		-	YES
Zip Integrated with file and Hard Drive Cleanup	YES		-	-
High Security Encryption	YES	-	-	
Security Integrated with File Compression	YES	-		
Secure Erase Feature	YES			
Self Decrypting Files for	YES			-

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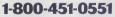


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Source: Windows 95 More reviews on page 268

INFORMATION MANAGER **Day-Timer HomeLife**

Got a harried household that could use some organizing? Load up Day-Timer HomeLife, a family-oriented personal information manager with a downright neighborly face. It offers the kinds of goods even the Brady Bunch would find useful

HomeLife's graphic calendar lets you easily set and display appointments. And like any competent PIM, HomeLife alerts you to appointments, tasks, birthdays, and anniversaries.



HomeLife offers separate log-ons and passwords for everyone in your household. It also features a built-in messaging system so family members can send notes to one another. The program alerts users to waiting messages on an onscreen refrigerator door.

The address book does a good job of managing names and addresses to help you track things like holiday lists, and HomeLife can print in about 20 label formats.



Day-Timer HomeLife

Pros: Helps keep a busy calendar, an address book and a basic database

Cons: May not fit into your family's daily mutine

Verdict: An easy-to-use. family-oriented personal information manager.

\$49 est, street price (800) 225-5005, (415) 572-6260 Reader Service No. 798

The program also stores birth certificates, immunization records, emergency numbers, and the like, all of which you easily key into predefined forms.

While Day-Timer HomeLife helps you organize your busy schedule, you may be content just to stick notes on your real refrigerator door or write on a master paper calendar. But if you want help keeping track of your active family, pick up a copy of HomeLife. WAYNE KAWAMOTO

Pinball Builder

Ever since you were a young boy, you played the silver ball-but now you're looking for a bigger challenge. Why not design the table of your dreams with Pinball Builder: A Construction Kit? Even a pinball wizard knows you don't need supple wrists to engineer a table, just lots of patience.

Start by selecting a base table from one of 32 configurations. Add your own designs or choose from a library of images.



activates multiballs every time you hit a bumper. Then set up lamps, decals, drop targets, pins, jets, touch pads, kickers, and rollovers. Associate the lights, sounds, and scores to each table object. You can even set up the table to activate bonus rounds or collect a variety of other action-bonuses, such as extra balls, jackpots, and skill shots. Tired of table developing already? Pinball Builder

You can create a game that

Pinball Builder **A Construction Kit**

Pros: Large variety of pinball-table designs and game-creation objects

Cons: Building a table is not as easy as playing one.

Verdict: Create the pinball table you always wanted to play, or use one of the preconfigured tables.

\$50 est, street price 21st Century Entertainment (716) 872-1200 Reader Service No. 799

provides eight preconfigured tables that are ready to play.

Of course, no video-pinball simulation can replace the real thing. Unfortunately, the opportunity to construct your own table isn't possible at the local arcade. And previous video-pinball-construction programs simply didn't offer as many options. Pinball Builder gives you the most complete experience any pinball wizard could want without having to lift the glass and move the bumper. DAVID SPARK

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faces.	MONITOR	TUBE SIZE	PITCH (mm)	1600 HORIZONTAL PIXELS?	Beware of monitors that claim 1600 x 1200
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	SONY 17SEH	17' (16.0')	0.25 AG	NO	but lack a tube that can
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Source: Windows 95 More reviews on page 276

NEWSGROUP SEARCH UTILITY

Newsmonger

Sifting through a pile of useless newsgroup messages? Stop digging and let TechSmith's Newsmonger, a newsgroup search utility, help you unearth pertinent Usenet information using Digital Equipment's ultrafast search engine, AltaVista.

Start Newsmonger's search wizard by entering your keywords in order of importance. Next, indicate how narrow or wide you want your search focus to be. Newsmonger determines the Boolean arguments—a lifesaver for those of



us who still don't know how to write a proper search statement. Set your inquiry to run while you read messages or configure Newsmonitor all the newsgroups at predetermined intervals.

Newsmonger is not just a search tool. You can also use it to reply to a resultant message via e-mail or to add a message to an interesting newsgroup thread.

Although Newsmonger

makes it easier to sift through thousands of newsgroup messages, it does introduce the new problem of managing your queries. Therefore, the success of your queries rests on the initial criteria chosen and the filters you later impose to narrow the scope of your results. Developing a search method that works for you takes patience.

But if you value newsgroup information, take the extra time to learn to use Newsmonger. DAVID SPARK

Star Trek Borg

Those pesky Borg—they're everywhere these days. Now Star Trek's coolest villains have beamed to your PC in the form of an interactive adventure game. Incorporating seamless full-screen video, excellent roduction quality, decent acting, and a semiplausible plot, Star Trek Borg looks and feels like an episode of Star Trek: The Next Generation TV series. Although neither the Enterprise not her famous crew appears in the game, there's



one familiar face: Q, played by the often-hilarious John de Lancie.

As a young Starfleet cadet whose father was killed by the Borg, you're hungry for vengeance. Along comes Q, who offers you the chance to travel back through time and prevent your father's death. The game unfolds like this: You watch a few minutes of background video, then pick your course of action from the choices

FILEBOX

Newsmonger

Pros: Uses AltaVista to return newsgroup search results quickly.

Cons: Creating a successful search method takes practice.

Verdict: Newsmonger makes it easy to sift through thousands of newsgroup messages.

\$40 for single user, \$200 for ten-user pack, est, street prices TechSmith (800) 517-3001, (517) 333-2100 *Reader Service No. 800*

FILEBOX

Star Trek Borg

Pros: All the sights and sounds of a Star Trek episode with John de Lancie's Q adding comic relief.

Cons: Some scenes are about as interesting as watching Tribbles reproduce.

Verdict: A game for hardcore Trekkies only; mere enthusiasts need not apply.

560 est. street price Simon & Schuster Interactive (800) 983-5333, (212) 698-5333 Reader Service No. 801

given. If you choose poorly, you see the (usually deadly) consequences and get scolded by Q. Then the sequence is replayed so you can try again.

Borg is an engaging game for die-hard Star Trek fans, but the slow-paced interactive sequences will quickly bore other gamers. De Lancie's sharp wit almost saves the game, but in most other ways Star Trek Borg is a game only serious Trekkies have the patience to play. RICK BROIDA

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COMPUTER-BASED TRAINING

Design-A-Course

It's time to ditch the training manuals. If you give training courses in computers and have considered taking an application-programming class just so you can write a distributable, computer-based training (CBT) course, think again. Bernstein & Associate' Design-A-Course lets you create (CBT with just your word-correcssing knowledge.

Design-A-Course uses a simple point-and-click interface to let you author and develop a training course in a short time. Organize chapters and topics, customize fonts and colors, and even include multimedia tools like sounds and movies.



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installation program (this doesn't require additional user licenses). Or, if you plan to provide instructor-based training, you can print out your course.

The only drawback we found to Design-A-Course is its limited help system. Fortunately, the program is so simple you probably won't need it. If you're ready to take the plunge and make your own CBT, Design-A-Course provides easyto-use, powerful tools. LULT BEZUMYEHU

FILEBOX

Design-A-Course

Pros: Point-and-click interface means no application programming is needed to create a course.

Cons: Got a question? The help system won't help.

Verdict: Build a computerbased training course with a program as familiar as your word processor.

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Guide to Good Cooking

Tired of eating sloppy joes for dinner? Fire up Williams-Sonoma Guide to Good Cooking CD-ROM and find out what treats your deprived palette could be enjoying. You get a tasty collection of over 1,000 trendy recipes with mouthwatering photos (what else would you expect from the upscale kitchen retailer?), plus a Menu Planner and mini cooking school.

The Guide to Good Cooking is a great resource for



choosing your menu. The CD includes about as many recipes as the popular New Basics cookbook, and far more than the 100 or so in Microsoft's Julia Child CD. The dishes taste as good as they sound, too: The risotro with artichokes will impress even the pickiest palette. The CD even adapts recipes according to your number of guests, and your any princut the instructions. You can also make a shopping list that

FILEBOX

Williams-Sonoma Guide to Good Cooking

Pros: Generous selection of imaginative and tasty recipes; includes a Menu Planner.

Cons: Music and demos leave a lot to be desired.

Verdict: A great addition to any cook's kitchen.

S40 est. street price Broderbund Software (800) 521-6263, (415) 382-4400 Reader Service No. 803

you arrange by the sections of your grocery store.

The recipes include nutritional information that sadly demonstrates that fat does taste good—but that into helps you eliminate the recipes with ingredients you want to avoid. The CD has a few shortcomings, such as the tinny music, the jerky video demos, and the less-than-helpful glossary.

But those are nits. If you like to cook, get the Williams-Sonoma Guide to Good Cooking. PAUL FRANSON





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≝Source: Windows NT

REMOTE ACCESS

Remotely Possible/32 NT 3.1

You don't need smoke and mirrors to operate a computer miles away. You just need Avalan Technologies' Remotely Possible/32 NT 31.4, first-rate NT remoteaccess product that makes speedy connections across networks, the Internet, and phone lines. And its powerful multipasking features set it apart from similar programs.

Amazingly, Remotely Possible/32 ships on a single floppy disk that installs different code for Windows NT and 95. We



found the installation straightforward, and the remote installation—a feature only in the NT version—made it easy to configure the program across our test network.

Remotely Possible/32 lets you dial up and command a PC from afar. The program also lets you casily control computers that use different protocols—and you can send or receive files and chat simultaneously. Remotely Possible/32 in-



Remotely Possible/32 NT 3.1

Pros: Flexible, fast, and reliable.

Cons: Lacks directory synchronization and a friendly interface.

Verdict: A powerful, speedy remote-access product for your NT workstations.

\$189 for workstation; \$349 for server, est. street prices Avalan Technologies (800) 441-2281, (508) 429-6482 *Reader Service No. 804*

cludes strong security features that cover your PC as well as callbacks and functional access.

On the downside, Remotely Possible/32 doesn't map remote drives as local ones. And it can refresh files, but it can't synchronize directories. Also, the program's sparse main menu pales when compared with Symantee pcAnywhere's wizards.

Overall, Remotely Possible/32 is a speedy solution that delivers on its remote-access promise. WAYNE KAWAMOTO

FileMaker Pro 3.0 Server

Does your office live and die by information stashed in central database files? Claris's FileMaker Pro 3.0 Server for Windows NF gives Windows 95, NT, and Macintosh clients quick access to shared FileMaker Pro 3.0 database files across any network. It also offers strong administration tools for keeping files secure and up-to-date.

Pro 3.0 Server is a dedicated host that shares its database files with clients running FileMaker Pro 3.0 on their workstations. Pro 3.0 Server's interface is easy to configure and use.



And the server software shares up to 100 files simultaneously across networks using IPX/SPX or TCP/IP protocols, and hosts up to 100 FileMaker Pro 3.0 users at a time.

Pro 3.0 Server's strength lies in its fast performance. However, keep in mind that performance varies depending on your network and hardware setup. Network administrators can send messages to users, open and

FILEBOX

FileMaker Pro 3.0 Server for Windows NT

Pros: Improves database performance; supports up to 100 files and users.

Cons: Relies on Windows NT to secure server application.

Verdict: An excellent database-server solution for midsize businesses.

5999 est. street price Claris Corp. (800) 424-9733 ext. 1415 Reader Service No. 805

close files, disconnect users, and specify the number of clients that can open files. While Pro 3.0 Server offers security, it supports only file passwords created by FileMaker Pro 3.0. To secure the server application, you have to rely on the security built into Windows NT.

FileMaker Pro 3.0 Server for Windows NT is a viable way for medium-size companies to share their FileMaker Pro 3.0 databases across a network. WAYNE KAWAMOTO

Don't make a "My new cards aren't ready... hand me your cocktail napkin." first impression.



A networking guru like you, woit on a print shop? Ha! Now you con create Avery" business cards an your loser or ink jet printer. which is preat for customized designs in any quantity. Knowing this, wouldn't you rather just leave the nopkins with the caterers?

Jan once spent all weekend making "Effective Time Management" employee handbooks.

Ironic, isn't it?



Avery" Rendy Index" 11131

Is tomorrow a "I have to address and mail 1,800 letters by 3pm..." tupe of day?

Well, you can relax. Large mollings are easy with Avery address labels. ree, you can reax, sarge manings are easy wan wery a carress reaser. And since you create them as the computer, your labels will look as professional as you do. Laoks like a "long lunth" type of day after all.

Avery" Address Labels (Laser 5161"/bik Jel 8161")

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Working smorter instead of working horder. That's whot Avery" is oll about. Since preset loyouts for most of our products already exist in Microsoft" Word. Word Perfect" ond Lobel Pro", it tokes all the auesswork out of what used to be time consuming projects. And just obout everything we moke con be autput on laser or ink jet printers. Moking your work doy a little easier. And hopefully, a little shorter.



Circle 244 on reader service card.

Now

What Will You Do With Yours?

With even better colors and a brighter image, new Color OuickCam[™]2 is the digital camera that opens up whole new ways to use your computer. Add still pictures and video to your web page or e-mails. Make movies. Create your own greeting cards. Add images to business reports. Videoconference, Your imagination is your only limit. New software makes it even easier to take perfect pictures and show your true creativity. Get Connectix new Color QuickCam 2 today. And let your imagination go wild. For info. call 1-800-571-7558 or visit

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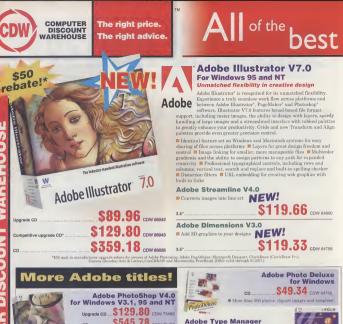


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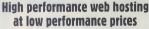
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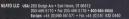
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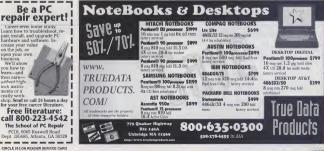
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Outfitted with Microsoft's Windows CE operating system, these pint-size portables are the first true pocket-size extensions of desktop PCs.

We looked at the five latest Windows CE machines: NEC's MobilePro HPC 450. Hewlett-Packard's 320LX Palmtop PC, Philips's Velo 1, Casio's Cassiopeia, and Compaq's PC Companion C120. At first glance, all five systems seem similar. All of them weigh around 1 pound. measure roughly 7 inches by 4 inches by 1 inch when

closed, and rely on a gravscale display. All have compact OWERTY keyboards, touchsensitive screens, and serial and infrared ports, Finally, all ship with Microsoft's Pocket Word and Pocket Excel, basic address-book and contactmanagement software, and Microsoft Internet Explorer.

Closer inspection, however, reveals some important differences.

Keep Going The NEC MobilePro HPC 450 is great if you plan to keep your pocket PC up and running

constantly. It boasts an NEC Vr4101 processor that extends battery life up to 30 hours between recharges by relying on several forms of power management, including sleep mode. Although its backlit touch screen is only the standard 480-by-240-pixel LCD, it's the brightest of the bunch and has the best contrast. qualities that make its long battery life even more impressive.

The MobilePro 450 is at the high end of the price scale, but it comes loaded

with a generous 8MB of ROM and 4MB of RAM, a diminutive AC adapter, and a docking cradle with a builtin recharger. Considering its battery life, size, display, and spacious keyboard area, the NFC is the most versatile handheld PC of the lot.

Big View Hewlett-Packard packs the most into its palmtop. Its high-end HP 320LX Palmtop PC offers the only 640-by-240-pixel display on a Windows CE handheld, but the unit itself is only slightly bigger than the others.

The extra width also contributes to the most tactile keyboard with the largest keys and best key travel.

The 320LX Palmtop includes a docking cradle and an AC adapter, as well as 5MB of ROM, 4MB of RAM,



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Solid Usability Test

and both a half-size Compact. Flash miniature-card slot and a Type II PC Card slot. Another advantage of the HP 320LX is that it's the only handheld with a printer driver, so you can print directly via an infrared port to Hewlett-Packard's infrared-equipped Laserlet and Desklet printers. If the \$699 price tag is too stiff for you, the HP 300LX Palmtop PC is available for \$499 with 4MB of ROM, 2MB of RAM, and no miniature-card slot or docking cradle.

Palm-size Powerhouse

Philips's Velo 1, which ships with a generous 8MB of ROM in both its 2MB and 4MB RAM models, is the most innovative palmtop PC of the bunch. Philips's own R3910 RISC processor drives an included 19.2Kbps fax modem and an integrated digital-voice recorder. Speak into its embedded microphone to store 16 minutes of speech for every 1MB of storage.

The price for this power is battery life; the Velo 1 runs only about 15 hours with fully charged batteries, and a mere 4 hours with heavy modern use. Fortunately, the Velo's built-in recharger lets you power hack up just by plugging in its bundled AC adapter.

The Velo 1 ships with a docking station and a pair of minitatre-card slots. While there aren't as many peripherals available for the minitature slots as there are for regular PC Card slots, this machine comes with so much stuff there's little more you're likely to need. For the most part, you'll want to take advantage of the slots for additional storage. Philips sells several flash-memory cards for the Velo 1.

Take It Home The Casio

Cassiopeia is one of the most affordable palm-size PCs. The Model A-10 with 4MB of ROM and 2MB of RAM sells for \$499, while the Model A-11 with 4MB each of ROM and RAM sells for \$599.

Cassiopeia's keybeard and display are identical in size and quality to other 480-by-240-pixel handheld PCs. But it stands out with its included software: bFax, for fax transmission of text and bitmap files, and Virtual Courier for syncing remotely with Lotus ec:Mail and Microsoft Mail systems. The Cassiopei also has optional cables so it can hook up to the Casio QV Digital Camera.

For syncing files with your PC, the Cassiopeia has a few options: the AC-S10 cradle with an AC adapter and a large docking station for \$60, or the UT-S11 cradle with a battery charger, a rechargeable battery pack, an AC adapter, and a mini docking station for \$130.

Well-Connected While the Compaq PC Companion matches the Casio almost feature for feature, it includes some software titles that make it a better choice if you want to connect to your desktop PC often.

For easy desktop connectivity, the PC Companion includes DataViz Desktop To Go and River Run's Mail on the Run remote access for Lotus cc:Mail and Microsoft Mail.

SIDE BY SIDE

WINDOWS CE HANDHELDS

Not all Windows CE-based handheld PCs are alike. While they all have a similar core set of features, we found that each of the five machines we examined has tricks that clearly set them apart from each other.



Philips Veto 1: Don't worry about finding a free slot when you want to go online. The Velo 1 has a space-saving built-in software modem. Just plug your phone line into the pop-up jack.



NEC MobilePro HPC 450: A couple of alkaline batteries are all you need to run for up to 30 hours with the MobilePro HPC 450—that's 10 hours longer than the competition.



Casio Cassiopela: Casio's palmtop adds new life to the Casio QV Digital Camera. With a special serial cable, the Cassiopeia can store or transmit the camera's images.



Hewlett-Packard 320LX Palmtop PC: HP's 320LX features a display that's 160 pixels wider than any of the other units. It also has the biggest, most usable keyboard: .



Compaq PC Companion C120: Don't sweat finding a phone line when it comes time to check your e-mail. Compaq's PC Companion hooks directly into SkyTel's two-way pager.

Solid Usability Test

Windows in Hand

	NEC MobilePro HPC 450	HP 320LX Palmtop PC	Philips Velo 1	Casio Cassiopeia	Compaq PC Companion
Resolution	480 by 240	640 by 240	480 by 240	480 by 240	480 by 240
Slots	1 PC Card	1 PC Card/1 mini	2 mini	1 PC Card	1 PC Card
Storage	8MB	5MB	8MB	4MB	4MB

The PC Companion C120 (\$99) comes with 4MB of ROM and 2MB of RAM, the C160 (\$699) comes with 4MB of ROM and RAM, and a 14 AKbps modem to boot. Compaq also has cheap docking options. A comp docking option. A comp docking opt

Windows To Go Are any of these palm-size PCs the perfect portable? Not yet, but they all bring us closer to the promise of running Windows anywhere, anytime.

If you plan to use your handheld for hours on end. pick the NEC MobilePro. It runs for hours even while its screen shines brightly. If you're looking for some breathing room, check out the HP 320LX Palmtop PC. It's the only one that offers a full 640-by-240 view. It also has the most usable keyboard of the bunch. If speed and online communications are key, the Philips Velo 1 is your best bet. Its impressive processor and built-in

modem get you online and computing fast-just make sure you have extra batteries. Casio's Cassiopeia offers unique features like advanced e-mail options and digital camera compatibility, and is one of the best-priced models around. Finally, if your primary purpose is to communicate with your desktop PC from the road, Compag's PC Companion is a good choice. While its hardware is nothing out of the ordinary, it comes with the software you need to reach your desktop files from afar MIKE HOGAN



Labnotes

Usability and connectivity are two advantages Windows CE handhelds have over past PDA generations, so we examined each palmtop in terms of ease of use and the ability to synchronize with a 200MHz Pentium PC running Windows 95.

Ergonomically, all the pens and touch screens worked well, but none of the keyboards handled more than one-finger typing. We experimented to see how easy it was to crank out notes that way and by using the stylus.

We created e-mail, Pocket Word and Pocket Excel documents, and made changes to our Contacts, Calendar, and Tasks lists. Then we made a serial-port connection and synchronized files between the handhelds and our desktop PC.

Since Microsoft wrote the software on both platforms, synchronization was a no-brainer. A Microsoft Wizard even popped up to walk us through the unusual process of plugging in five different portables. When communications software or modems were included, we tested how easy it was to send and receive e-mail, hook up to remote desktops. and connect to the Web.

We found that their familiar setup and ease of connectivity made the Windows CE handhelds more usable than earlier PDA models.

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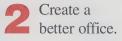


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PC Computing's Guide to the Best Of the Net

BY RICH SCHWERIN

ANALOG MODEM STANDARDS

The **56K** Question

A times it fels like the Web is nothing but an elaborate endurance test. You wait and wait. Plenty of promises have been made about cable and ADSL modems, but both require special wiring and an even longer wait for ISP support. Want a speed boost right now? 56Kbps modems use your regular phone line, download data at twice the speed, and are available today.

A downstream modem transfer of up to 56Kbps sounds great—it nearly doubles the fastest 33.6Kbps moderns, and it works over existing phone lines. But in the absence of a 56Kbps standard and none in sight before year's end, the market is filled with corporate rhetoric and hyperbole from two competitors.

In one corner—22, backed by U.S. Robotics and chip set/srom Tessa Instruments. In the other—K56Flex, backed by Diamond Multimedia Systems, Hayes, Practical Peripherals, and others, with chip sets from Rockwell Semiconductors ystems. X2 and K56Flex are not compatible, so find out which one your ISP supports, because both require like technology on either end of the connection.

U.S. Robotics boasts that more than 400 ISPs offer x2, while Rockwell claims an almost equal number signing on with K56Flex. But a close comparison of ISP lists from the two camps reveals that more than two-thirds actually support both technologies—diter all, they can't afford not to in the highly competitive ISP market.

If your ISP offers both, then the most important question to ask is how many Points of Presence (POPs), or phone numbers you dial to get online, are offered for each. The more POPs, the better your chance of getting online at 56Kbps,

right? Not eacily. The caveal free is that with either 2c or KSFlex, your transmission rate will vary. If your office uses a PBX, you'll be lucky to reach transfer rates in the low 40s. And because line conditions vary from one teleo to another, reaching 56Kbps dhroughput is rare. Also, both technologies are asymmetrical—you get 56Kbps downstream, but only 36Kbps gubreram.



The Choice Is Yours: You want 56Kbps access over your analog line. But deciding between battling technologies—x2 and K56Flex—is a tricky proposition, so choose carefully.

> Which standard is best for you? U.S. Robotics won the race to get us the first 56Kbps modem for testing, with its x2based modem. And x2-supported POP lines were the first available for us to connect to. For more info about the first two 56Kbps modems, check to utor areview, "Two Ways to 56K," on page 104. But before making a decision, check with your ISP.

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Get Active with ActiveX

BY ED BOTT

arly this year a group of pranksters from Hamburg's Chaos Computer Club appeared on a German television station with a startling live demonstration. Their bait was a Web page whose message translated roughly as "Become a millionaire in five minutes," above a tempting Click Here link. When a user viewing the Web page with Microsoft Internet Explorer 3.0 took

Internet Internet Expert

the bait, the hackers ActiveX component quietly installed itself, surreptitiously added an unauthorized transaction to the user's copy of Quicken, and transferred a small sum of money without human intervention.

It was a crude hack, and no one lost any real money.

But it served to illustrate the dangers of ActiveX, the cornerstone of Microsoft's Internet strategy. ActiveX is a broad term that covers a variety of technologies. Most commonly it refers to component software used across a network like the Internet. Using Microsoft's ActiveX-enabled Internet Explorer 3.0, for example, you can download components that let your Web browser display content that garden-variety HTML can't handle, like stock tickers, cascading menus, or Adobe Acrobat documents

ActiveX controls extend the capabilities of a browser and can also be used with other applications. Java applets offer a third way to extend the browser's reach, but with a significant

difference: Thanks to the Internet Explorer Java virtual machine's Security Manager, a Java makes it easy to applet cannot interact with resources on the user's components. In

machine, whereas plug-ins and ActiveX are specifically designed to work with user files and applications, Common scripting languages, which allow all

three types of add-ins to interact, blur the picture even further.

Microsoft's browser makes it easy to download and install ActiveX components. In fact, critics say, it's too easy. Downloadable components can be signed

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Beyond HTML: The spreadsheet-lil displays and pull-down menus are cou Microsoft's custom ActiveX controls.		

with digital certificates from a certifying authority such as VeriSign, and the default Internet Explorer settings pop up an official-looking Authenticode dialog box that lets you decide to install a downloaded component. But the certificate can't tell you anything about the safety of the applet itself, nor can it confirm that a sloppy publisher hasn't had its key stolen.

If you use a non-Microsoft browser. ActiveX security is a non-issue. For Internet Explorer users, though, the threat of hostile applets is real indeed. Know your security settings, and don't accept code from strangers.

Tips, Tricks, and Techniques

Stop ActiveX controls and Java applets in their

tracks. One sure way to avoid threats to your system's security is to prevent Internet Explorer from downloading any ActiveX or Java components. An even more drastic approach is to disable any ActiveX components, even those already installed, from running inside a browser window. To stop downloads, open Internet Explorer 3.0 and choose View, Options; click on the Security tab and uncheck the box labeled Allow Downloading of Active Content. Now when you encounter a page that contains an ActiveX control not vet installed on your system, you'll see either a blank space or a

red X where the control would normally appear. To download that control, check the Allow Downloading box and then reload the page. Leaving the remaining three checkhoxes in the Active Content area unchecked completely disables ActiveX controls, Java applets, and all scripts-even when the code is already stored on your machine.

download and

install ActiveX

fact. critics sav.

it's too easy.



How to peek inside an ActiveX control. Many

ActiveX components use DOSstyle 8.3 filenames which makes it difficult to figure out which file does what-until you right-click and choose Properties, that is, The filename lexit.ocx is simply inscrutable, but the Version tab on its Properties sheet identifies it more fully as the Microsoft Investor Ticker, You'll also find useful date and version information there. Unfortunately. you can't uncover any dependencies with other ActiveX controls or DLLs using this technique. Internet Explorer 4.0 favailable in an early preview version) will offer more information

about installed controls, and may even include an interface for updating or deleting components.

Take even more control with Authenticode digital

signatures. Hardwired into Internet Explorer 3,x is a mechanism for verifying the source (but not the safety) of a downloaded component. When you view a page that contains an unknown ActiveX control, Internet Explorer 3,x downloads the code and checks for a digital signature issued by a trusted third party like VeriSign. The certificate dialog box tells you who signed the certificate and lets you install the component or cancel the operation, A

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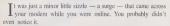
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The Site	What You'll Find There		
Microsoft Active Platform www.microsoft .com/activex	News and links to ActiveX resources. Sometimes breathless and always biased, this site emphasizes the glitzy, multimedia-filled aspects of ActiveX and glosses over most technical issues. A good starting point, and the directory pages point to interesting third-party ActiveX sites.		
Microsoft Security Advisor www.microsoft.com/ security	White papers, news releases, and links—all straight from the home office in Redmond, Washington. A high spin-control factor, but comprehensive and filled with links worth exploring. Managers of corporate sites should jump to pages that describe the Internet Explorer Administrator's Kit.		
Java vs. Active X www.sun.com/ developers/javax.html	And now for something completely different After you visit Microsoft's ActiveX pages, drop by Sun Microsystems for a Java-centric view of Internet development and security. Follow the links for a tutorial on Java and for recent updates on Sun's ActiveX alternative, JavaBeans.		
Death by ActiveX www.digicrime.com/ activex	The page title is your tip-off that the security specialists at DigiCrime are concerned over the implications of downloadable code. Get surprisingly clear explanations of complex concepts. Jump to the home page to read about other security issues. View this site's source for clever scripting.		
ActiveX (or How to Put Nuclear Bombs in Web Pages) www.halcyon.com/ mclain/ActiveX/ welcome.html	Software engineer Fred McLain developed the Exploder program as a "nonviolent demonstration of security problems with Microsoft's Internet Explorer." Raises interesting questions about the value of digital certificates. Well-written FAQ and links to related articles make this site worth a visit.		
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VeriSign www.vensign.com	Background information about the best-known provider of digital certificates, one of the core technologies used with Microsoft's Authenticode. Browse certified sites, or order your own Digital ID.		





Authenticode certificates offer limited assurance of trust.

certificate does not mean the code is virus-free, bug-free, or even useful--it just means you can identify the person or business that signed the certificate. Two checkboxes at the bottom of the certificate dialog box let you skip this process in the future for code either from that company of from the authority that issued the certificate. Security-conscious users should resist theoking either box. The Safety Level buttom in the Dptions dialog box controls how unsigned code is handled. The default setting is high, meaning that unsigned code will not be downloaded; choose Medium if you're willing to take your chances on an individual component.

Get the latest security

patches. Bugs in the initial release of Internet Explorer 3.0 included some holes in the ActiveX security model. Those were patched in versions 0.01 and a subsequently discovered security gap (unrelated to Active2) requires an additional patch. Confusingly, the only way to tell which version of Internet. Explorer, you installed its choose Help. About Internet Explorer, the 3.01 release identifies itself a 3.0, version 4.70 1215. If you installed the March security patch, you'll sec version 3.01a.

Manage your Inventory of ActiveX controls.

Unfortunately, current versions of Windows include no tools for finding, deleting, or reinstalling ActiveX controls. The manual techniques outlined here are risky, and only for users who are comfortable with the Windows Registry Editor. Most downloadable controls live in the Occache folder, under the Windows or Winnt system folder: use the Find, Files or Folders command to search for * OCX files stored elsewhere. A Setup Information file will identify the OCX filename, any accompanying DLLs, and corresponding CLSID entries in the Registry. To kill a control, you must delete the entire Registry subkey and any accompanying files. After taking both those steps, restart Internet Explorer and open the page with the ActiveX control to install the components again.

Inter.met Net Kahuna

Time's a-Wastin'

BY RON WHITE

The 'How Bored

Are You?' Game

less waste of time you'll find-

not simply on the Web, not just on

the Internet-but in the entire.

known universe. The rules are as

simple as this: "You may not open

another window. You may not

multitask. You may not play this

game unless you are so bored that

these instructions are an unbear-

able excitement to you." You're

allowed to stare only at the screen.

where the length of time you've

been doing nothing is updated

every 10 seconds. Every so often

the message changes, but never to

anything as interesting as a bus

schedule. The site was created by

Nick Sayer-a Unix geek who also

provides Federal Communications

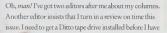
Commission US Amateur Radio

forms for download. Nick says he's

too bored by the game to bother

keeping a record of winners, but

the most use-





How to Get it All Get all 1,001 free downloads plus live links to all the sites in Internet at WWW.PCCOMFUTING.COM

my monthly hard-drive crash. I'm two weeks behind updating my CD-ROM database. I'we given my publisher every possible excuse for why I haven't finished my new book outline. My taxes were due in April. And my dog has a look that says I either walk him *now*, or I know what'll happen. Well, you know what they say: When the goin' gets tough, the tough get goin'. Except I'm about as tough as a Twinkie. When deadlines surround me, it's surfin' time! There's no better way to avoid reality than browsing through time-wasting Web waldles. So turn your browser toward these ultimately useless time terminators.

you can count yourself among those who truly have no lives if you wait it out for a half-hour. Go for it.



The Useless Pages

The name pretty much says it all. The Useless Pages should spobably get five stars, but I knocked off one star because the pages are too interesting to be true timewasters. Your host, Steve Berlin, offers a personal tour of uselessness—cars, computers, names, Star Trek, pets, Spam—and a Useless Hall of Tamé.

www.go2net.com/internet/useless/

PeopleFind

whole afternoon: Look up the high school cheerleader you never had a chance with, the bully from high

school, people who have the same name as you. And this is a time waster with a bit of irony: I couldn't find anyone with my name, including me. In other words, I wasted time, wasting time! (Hold it! There I am. Whew! For a couple of seconds there I had this strange Twilight Zone creepiness.) Stalkers will appreciate PeopleFind's mans complete with victims' homes and nearby businesses where they can lurk legally. Look up the e-mail addresses of your lost friends and waste more time writing messages to people, who will waste their time reading your messages, and waste their spouses' time telling them about it that night.

www.lycos.com/pplfndr.html

What Television Show Is This Song From?

KARA So you can't find any family or fellow employees to bore with your encyclopedic knowledge of inane trivia? Well, your PC never gets tired of you. That's why you love gets the do you. That's why you love tright? Point your browser to What Television Show Is This Song From? Immediately you're regaled with a MDI tune from one of three TV shows that are listed as the answer. Take your time. Is it *Star Trek Voyager, Twin Peaks,* or *ABC's Wide World of Sports*? Wrong! Try again.

www.geocities.com/~hankin/tgame.html

Sound Ring

******* When it comes to wasting time. Sound Ring is sheet genius—and one of the ten best sites on the Web—although to call it a site is misleading. You can start at the URL I ve given you here. But Sound Ring is really a collection of 250 sites, all devoted to their own collections of sounds in WAX, RealAudio, and other formats. From Physer's Pink Floyd Sounds, jump to Stupid Human Noises, then to sound bites from



Sound Ring: Listen in to an unbeatable Web-based audio collection free of charge. IOTDGRAPH BY DAVID PERF

****** Your personal time machine to retirement. **** A nice, long nap in the sunshine on a short day. *** Reading the latest best-seller from Stephen King. ** Staying late at the office. * Working weekends.



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microfilter More That Meets the Eve

http://www.toshiba.com/taec

In Touch with Tomorrow

Circle 216 on reader service card.



the Marx Brothers, to Skokefoe's-Funky Sound Page, to The Looney Tunes SoundSource, and end up at your choice of sound pages from The Simpsons.

www.nidlink.com/~ruger/ring.html



rounds of Java Tetris and you'll wonder where the weeks went.

Java Games

**** You simply can't give Tetris enough credit as a time waster of international caliber. Through the miracle of Java technology, you can now tum your thousands of dollars' worth of hardware and networking into a Nintendo Game Boy without the irritating music. If you fire of Tetris, there's also Hangman, Connect Four, and All Light—an online version of something that's to big a waste of time to waste time explaining. See for yourself.

www.lightcom.net/javablue/javagames

Random Monty Python Skit Server

For those who are Monty Python fans and have a psychopathic need to waste time, an obvious choice would be Monty Python's Complete Waste of Time (www.7thlevel com/ovthon/cwot). But the consummate time waster does not waste his or her time with the obvious. The devotee of the obscure goes to the Random Monty Python Skit Server, Each time you visit this site, it randomly posts a complete script from one of the Monty Python skits so you can now know exactly what those mushy-mouthed English twits are really saying.

ugweb.cs.ualberta.ca/~stuart/monty

TELL ME YOUR DREAMS A Conspiracy

HOT SPOTS



Not everyone can afford an expensive Vienna shrink. But assuming you've paid your Internet provider bill, you can afford A Conspiracy of Sleepers. Whether your dream is about angels in airports, your dead mother alwe again, or giving birth to puppies, describe it to the Deus Ex Machina Dream Input Device, and if the people who run Conspiracy think it's interesting enough—and real—they'll post it for analysis by folks who don't know anything they're talking about.

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CHECKING ON THE OLD TICKER

Can't get through the day without checking some Web site to find out how your mutual funds are doing? Surf on over to Closing Bell, where you can create a list of the stocks and mutual funds you own and get daily reports on the progress or slump in your investments. And get this, it's all free. www.mec.com/dbcg/te.mer.cgu

GOREY SITE

If Dr. Seuss had been severely depressed, he would have been Edward Gorey, the creator of



those dark pen-and-ink drawings for the Mystery credits on PBS. Gorey's The Gashlycrumb Tinies is the alphabet set to one-liners about the demise of 26 children. ("M is for Maud who was swept out to sea... W is for Winnie embedded in ice.") charlotte anamaw.edu/arki/gorey

Dilbert List of the Day

The best way to extend your Dibertized time-wasting is with the Dibert List of the Day, part of The Dibert Zone. Read the current list and add your own suggestions. Or mosey through a month's worth of lists, such as Ways to Instantly Kill a Project, Uses tor Stolen Office Sup-



Learn time-killing tips from Dilbert and his better half.

plies, Worst Things to Hear in a Job Interview, Worst Things to Do in the Elevator, and Best Small Businesses to Start from Your Cubicle.

www.unitedmedia.com/comics/ dilbert/lotd

The World's First Collaborative Sentence

This is also supposed to be the world's longest sentence-15,846 words, provided you ignore the periods that have been inserted by unknown spoilsports. Read what others before you have added to the sentence-several screens' worth that should easily take up the time you're supposed to be in a conference call. You sometimes run across rants like "who gives a damn about whether this is really the World's First Collaborative Sentence, or just a long string of words. masquerading as a single sentence by the rather dictatorial expedient of outlawing periods."

math240.lehman.cuny.edu/ sentence1.html

As Seen on TV

AND OF course, for pure junk and the ultimate in wasting time, it's hard to top browsing leisurely



seen that widget before. Hey, it was on TV—it must be good!

through the As Seen on TV page. Yep, if you've seen it sold on television and it's crap, then you'll find it at this site. Whether you're searching for Sea Monkeys, China Pets, Miracle Thaw, The Smart Clapper, SuperSiter, Bacon Magic, or Diddwenn (the miracle stain remever), you'll not only find it here, you can actually order it so you'll be squandering money at the same time you're squardering timesort of a wasting-time time-saver. www.correlit.com/seere/thm

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Are we there yet? This month our spies traveled around the world in search of Vacation veteran Clark Griswold. just to get the inside scoop on the foibles of family adventures. Check it out here and online at www.pccomputing.com.

Disneyland Living Hell uran.net/sci_fi/outlum/noleo()&.html

A Good Base Sunburn www.lechateau.co where him

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Relax? The Bill www.sees.bangor.ac.uk/~matthew/thebill/ thebil html

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Left the Stove On?

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Was This in the Brochure? Hurricane Lost Passport Stranger in a Strange Land ubmail ubalt.edu/~telliott/stranger.html

Meet a Friend in

mic

Rat Burgers and More Exotic Dining Restaurant Guide Members.aol.com/EDining/homeoage.html

Crazy from the Heat Postcards from the Edge www.safari-media.com/postcard1.html Summer Vacation Come Winter home.sol.no/andhagen/

'Driver, to the hotel please.' The Long Way www.best.com/~wchint/shendan/ cape009/4i.html

Captured Tourist Trap www.videoflicks.com/VF/22/022312.htm

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Drder Code #500501

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you'll now be running dramatic multimedia presentations on the high-end systems that have earned designations like PC Magazine Editors' Choice for Best Business PC. It means you'll be cruising the Internet on systems designated MVP and 5-Star Award winners by PC Computing. And it means a whole lot more since they're also awarding our great reliability and price. Which is what a firm commitment to cutting edge engineering will get you. So give us a call and let us build you a winner. After all, if you're judged by the company you keep, shouldn't you hang with the champs?

